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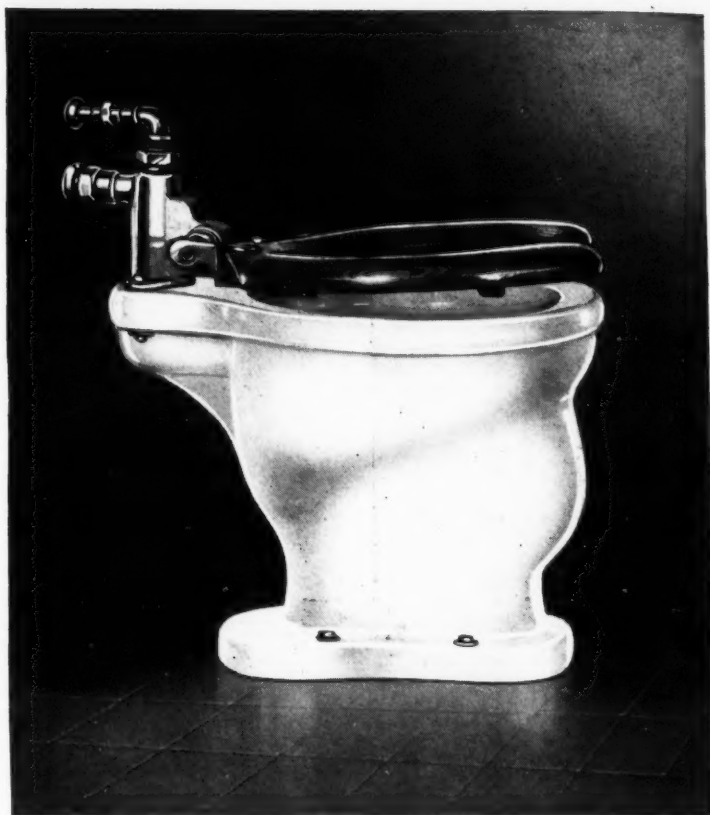
THE AMERICAN School Board Journal

A Periodical of School Administration



OCTOBER - 1931

*You can't
depend on
the children*



Vogel Number Ten-A Syphon action bowl, with tank concealed

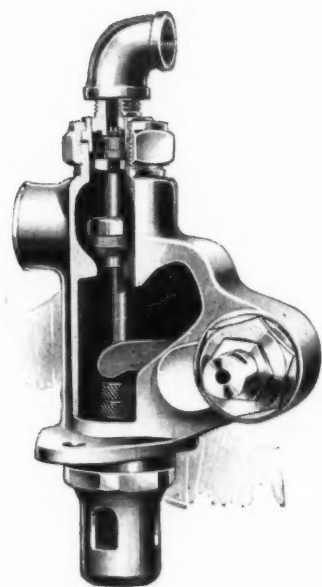
But you can depend on VOGEL Number Ten-A Closets

CHILDREN have no idea of the danger of unflushed closets — and even if they did, we must remember that children are careless and forgetful. But when you install Vogel Number Ten or Ten-A closets in your school, you are installing protection, because Vogel

Closets flush every time. They cannot remain unflushed and children cannot forget.



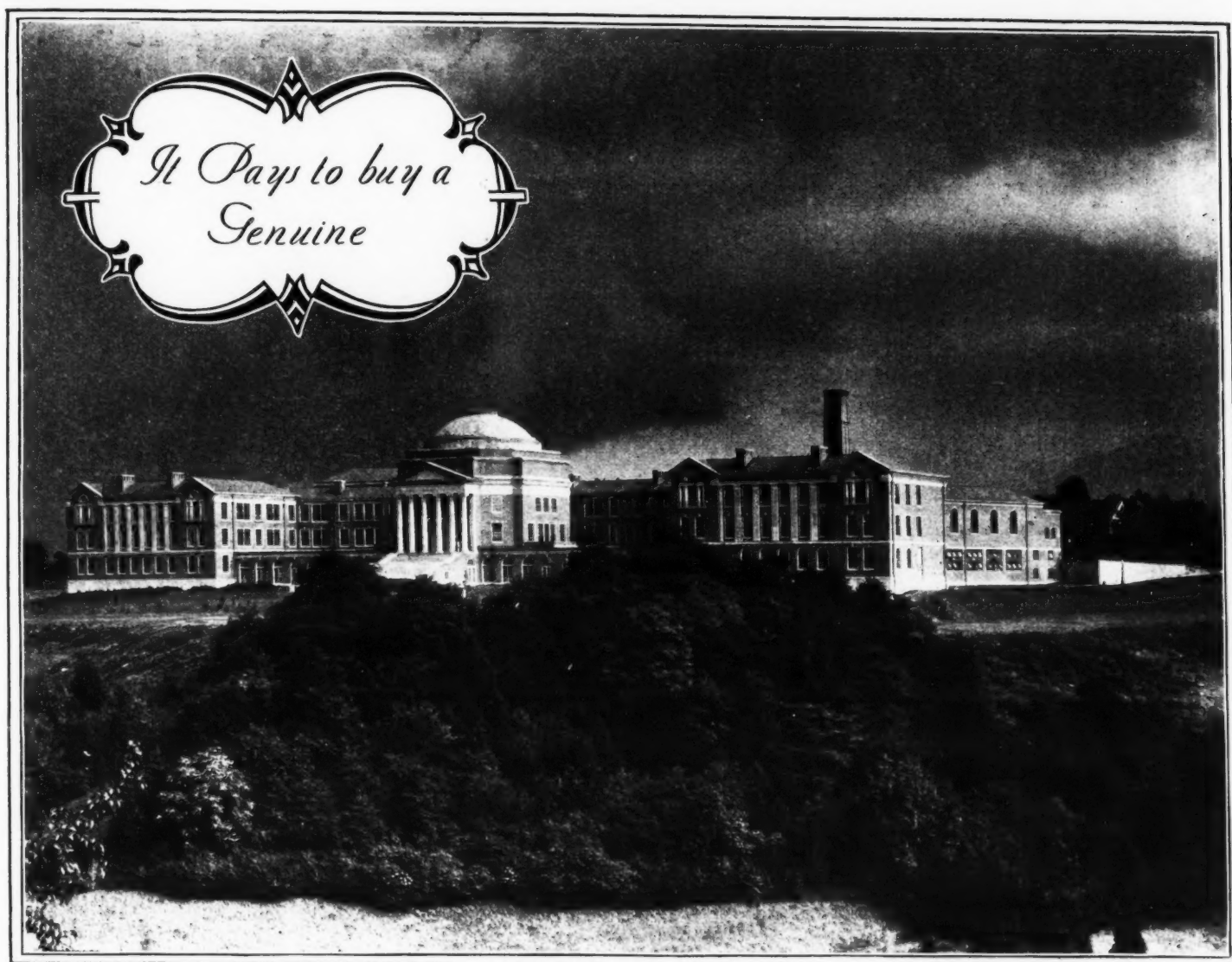
Literature designed especially for school boards, architects and engineers, will be sent promptly upon request.



Vogel Valve
Has all working
parts of high ten-
sion bronze. Will
never wear out.

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.

—VOGEL *Products* **—**
A PATENTED A



One of America's most beautiful schools, the Walnut Hills High School . . . Garber and Woodward of Cincinnati, the architects of this impressive temple of learning, specified this everlasting natural product not only for blackboards but for the roof and window sills as well . . . It is interesting to note, throughout the country, the number of distinguished school buildings whose designers have looked far into the future and put into the structure only material that will give lifelong service.

That is why "Pyramid" Natural Slate Blackboards have always been the popular choice . . . They can be washed down with water and a little ammonia once a week, using a rubber squeegee for drying. There is no thin black coating on a Natural Slate Blackboard to peel and crack. Its ideal velvet-like surface goes all the way through . . . Easy to write on, easy to erase and sanitary because it can be washed with water without harming its writing qualities . . . a "Pyramid" board should go in your school.

Walnut Hills High School, Garber and Woodward, Cincinnati, Architects, David Gordon, Cincinnati, Contractor. "Pyramid" Slate for Blackboards, Roof and Window Sills. There is a book on slate for every use. Let us send you a copy on the subject in which you are interested.

CONSULT
YOUR ARCHITECT

Natural Slate Blackboard Company

Department 10-D



Pen Argyl, Penna.

**They Outlast
the Building**

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THE HERMAN NELSON CORPORATION



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SYSTEM OF VENTILATION

The Herman Nelson Corporation are makers of the *Univent System of Ventilation*, the *Her-Nel-Co System of Ventilation*, the *Herman Nelson Invisible Radiator*, the *Herman Nelson hiJet Heater*, and other heating and ventilating equipment.

"Don't heat outdoors", say economists. "Schools must be ventilated", say health authorities.

The Her-Nel-Co System of Ventilation meets the requirements of both economists and health authorities.

Health authorities recognize that it controls temperature, air motion, and humidity within the limits that produce the schoolroom atmosphere most conducive to health, comfort, and mental alertness of pupils.

They recognize that this control is simpler and more effective than systems designed to bring a continuous supply of outdoor air into the schoolroom.

Naturally the saving in fuel costs pleases the economists.

The Her-Nel-Co Ventilator uses outdoor air only when necessary to remove excess heat and resultant body odors, and such outside air as is admitted is tempered by admixture with room air instead of being preheated.

Write for the book, "The Her-Nel-Co System of Ventilation". It shows why and how the new system gives good ventilation results with savings as high as 50% in fuel costs.

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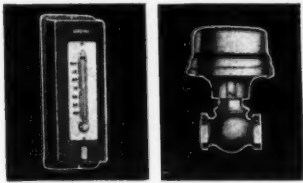
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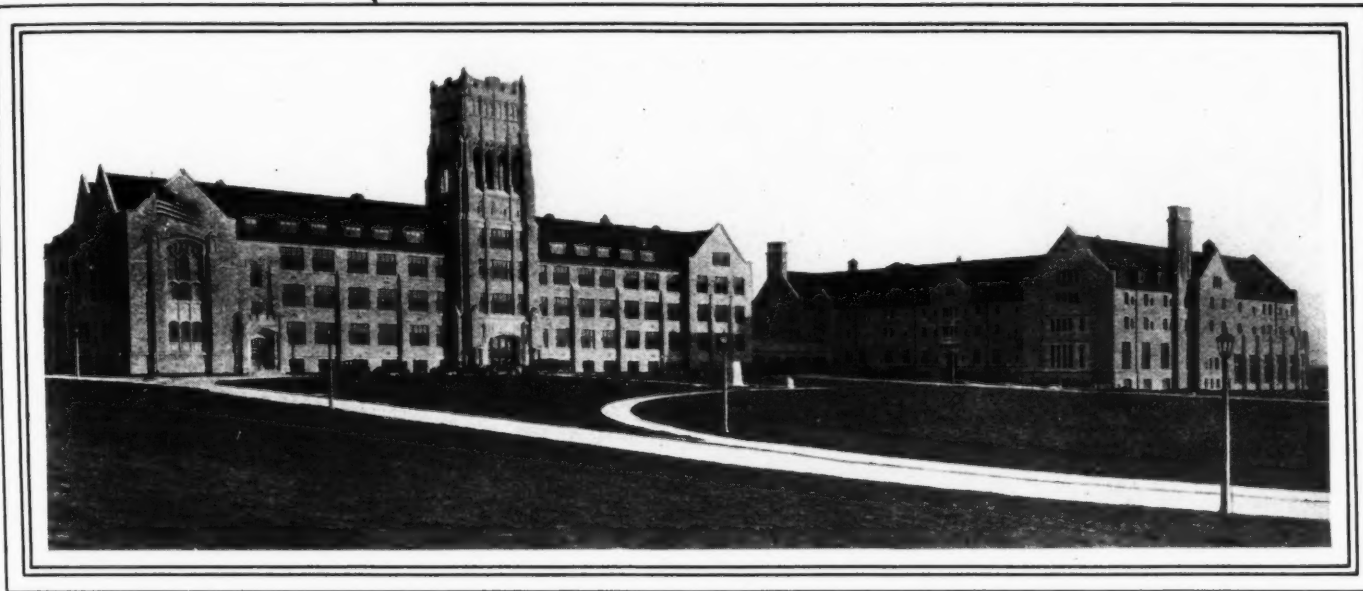
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HEAT AND HUMIDITY CONTROL



The All-Metal System, The All-Perfect Graduated Control Of Valves And Dampers, The Dual Thermostat (Two Temperature) or (Night And Day) Control, Fuel Saving 25 to 40 per cent.



Mount Mary College
Milwaukee, Wisconsin

Herbst & Kuenzli
Milwaukee, Architects

AN INTERESTING VARIETY OF JOHNSON CONTROL IN MOUNT MARY COLLEGE

The heat and ventilation of this new, modern college building are entirely regulated by the Johnson System of Control.

The Administration Building contains 92 Johnson Gradual Acting Dual (Two Temperature or day and night economy) Thermostats, controlling 131 Sylphon Radiator Valves and the mixing dampers in 47 Univent Machines. The fresh air dampers are controlled by means of 5 Johnson Switches, which also control the building's ventilator dampers, each switch controlling one section . . . there being 5 separate groups.

The main college hall includes 19 Johnson Gradual Acting (One-Temperature) Thermostats, controlling 45 Sylphon radiator valves and the mixing dampers in 5 Univent Machines.

The Gymnasium and Shower Room are heated and ventilated by Unit Heaters, equipped with Johnson Electric Pneumatic Switches . . . so arranged that the fresh air dampers automatically open when the fan on the heater is started, and insuring the introduction of fresh air automatically whenever desired.

Each Johnson Installation Made By Johnson Mechanics Only. Every Johnson Installation Inspected Annually Without Charge. 30 Johnson Branches Insure Emergency Attention Within 24 Hours Anywhere.

Johnson Pneumatic Hand Switches are also included in connection with these fresh air dampers . . . to cut out the operation of the electric switch so that the fresh air dampers can be opened and closed independently of the electric switch, thus introducing recirculated or fresh air as conditions require.

Separate Johnson Push-Button Switches furnish separate operation of the fresh air dampers and the ventilator dampers for the cafeteria, dining-room, social room, bowling alley and swimming pool: individually and independent of the remainder of the building, and as the hours of each of these departments demand.

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507 E. MICHIGAN ST. Established 1885 MILWAUKEE, WIS.

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SERVICE



Von Duprin

Self-Releasing Fire and Panic Exit Latches

After All the Years

The genuine Type "B" Von Duprin devices are made primarily for men who fully appreciate that school buildings are made not for a day, but for the years.

These men understand that in many cases the best things are most profitable in the end - - - not only in dollars, but in satisfaction.

Von Duprin Type "B" devices are made to last long, to operate surely, to give freedom from upkeep expense.

They are made of the best materials we can buy, with all the skill and painstaking care which can be bestowed upon them. They are, in short, top quality, made for the man who knows quality and demands it.



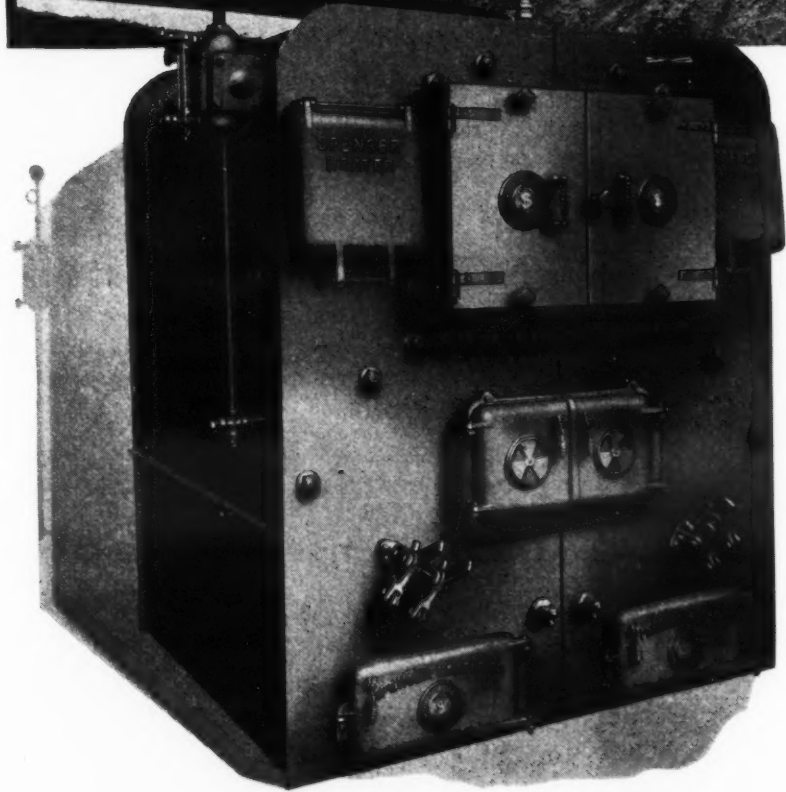
We suggest that you ask your architect to specify the genuine Type "B" Von Duprins as an item separate from the finishing hardware. *Thus you foster clean competition, since all reputable dealers can buy them at the same fair prices.*

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Indianapolis, Ind.

Listed as Standard by Underwriters' Laboratories

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The Lowest Cost Heat You Can Buy*



Waterloo High School
Waterloo, New York
Architect, Carl C. Ade,
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3 Spencer Boilers used.



The Spencer Boiler is a Gravity Stoker-Boiler. The storage magazine from which the coal feeds itself to the fire, has all the automatic advantages of the individual stoker, but with none of the mechanical handicaps. No machinery to get out of order; no power to fail. The natural force of gravity is always in operation. A Spencer avoids the double responsibility involved when separate boiler and stoker are used. The Spencer IS a boiler and a stoker but all in one compact unit. This does away with a double investment. The Spencer saves on first cost as well as on operating cost. Write for our new 16-page free book, "Answering the School Heating Problem."

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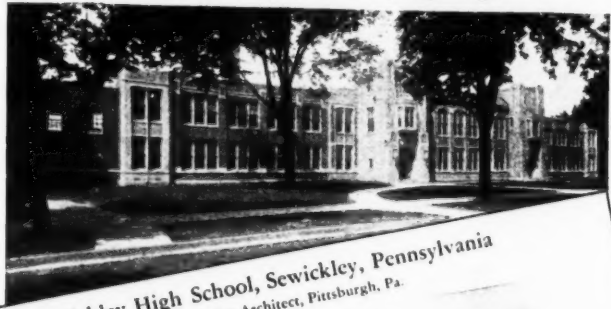
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John H. Graham & Co., Architects, Cleveland, Ohio



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Sewickley High School, Sewickley, Pennsylvania
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DRAFTLESS VENTILATION

INSURE the good health of the pupils in your school this easy way: Williams Reversible Window Equipment—with both upper and lower sash completely reversible—deflects incoming air currents upward, affording the maximum of clean, draftless ventilation. Affords better shading facilities—saves eye strain.

Cleaned from the inside, safely, the greater efficiency of Williams Pivot Sash Windows makes them pay for themselves in just a few years.

Send for new illustrated catalog showing widespread and repeated use.

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For 27 years manufacturers and installers of Reversible Window Equipment.

WILLIAMS REVERSIBLE WINDOW EQUIPMENT

Clean Your Windows from the Inside

SCHOOL GIRL AWARDED \$20,000 DAMAGES For Shower Bath Injuries

Florence Ferguson was awarded \$20,000 damages for shower bath injuries.



Pole Vault Champ Badly Scalded at Track Meet

The State Normal School received a setback at the University track meet in Johnson City this morning when George Roberts, pole vault star, was scalded in a shower just before the meet took place in the Watson Memorial Gym. It was stated that he unknowingly stepped under a torrent of scalding hot water and that his shoulders and back were literally baked before he could get out from it. Roberts is now in the Johnson General Hospital and probably will be there some time.

Football Star Meets with Mishap in Shower Bath

While taking a shower bath after today's game with Syracuse, "Slip" Willoughby was rather badly scalded. Coach Dougall says that the team will be greatly handicapped if "Slip" is unable to play in next Saturday's game.

Could this happen at your school?

Get this Free Book telling you how to make showers SAFE

Negligence on the part of school authorities in providing Safe Shower Baths leads to trouble and often to expensive damage suits. Do not delay investigating the Powers Safety Shower Mixer and Thermostatic Water Controller.

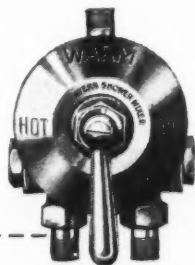
Our book shows how Harvard University, Northwestern University, St. Louis Board of Education, Detroit School Board, and hundreds of others are using the Powers Safety Mixing Valves to prevent accidents.

The Powers Safety Shower Mixer will regulate the temperature of individual showers and keep that temperature where it is wanted. No chance of getting scalded because of pressure fluctuations in supply lines or failure of cold water supply. No slipping or falling on wet tile floors trying to escape "shots" of hot or cold water.

The Powers Thermostatic Water Controller mixes hot and cold water in large quantities and delivers at any safe temperature desired for group showers, progressive showers, etc. Absolutely scald-proof.

Powers Mixers save hot and cold water. They prevent steam in bath rooms, which loosens paint and plaster; and they reduce repair expense, because they have no valve seat washers on hot water inlets to wear out and need frequent replacement.

USE THIS COUPON
No obligation incurred

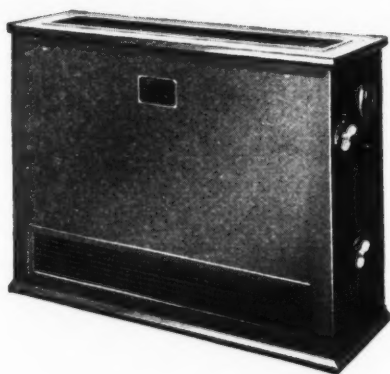


THE POWERS REGULATOR CO.
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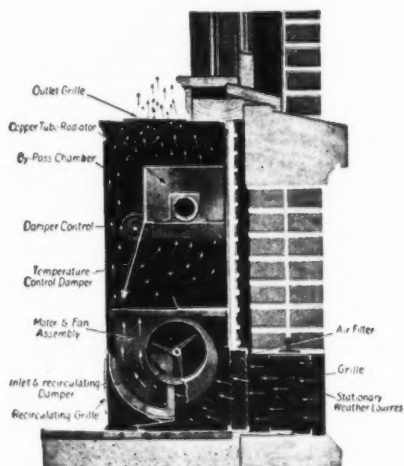
We want to make our showers SAFE. Send us your book on mixing valves.

Name..... Title.....
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Make School Days *happy* Days for them . . .



Universal Heating and Ventilating Units are Quiet in Operation, Dependable, Reliable and Pleasing in Appearance.



CHILDREN are naturally full of pep and energy. With their youth and vitality, it is hard enough for them to remain orderly and attentive under the best of conditions. When the air they breathe is hot and stuffy, when drafts or irregular temperatures prevail in the class-room or throughout the school building, school days become unhappy days. Teachers and children alike demand good heating and ventilating conditions to do their best.

Upon applying Universal Units, air conditions become as they should be in every room of the building. There is no overheating, no underheating. There are no dangerous drafts, no stuffiness. Universal Units, quietly and dependably, deliver a vertical discharge of air heated at just the required temperature. They provide a highly efficient method of supplying class-rooms with regularly-changed, clean and wholesome, heated air. They have been designed and constructed to meet every heating and ventilating requirement and to give years of reliable and economical service.

Your architect—who has applied Universal Units with complete satisfaction in the large school room and the small, in the new and in the old — will be pleased to tell you of years of experience with them. Or, the American Blower Branch Office near you will be glad to give you complete details.

Write for our book of prominent installations or for our catalog and engineer's data book. No obligation.

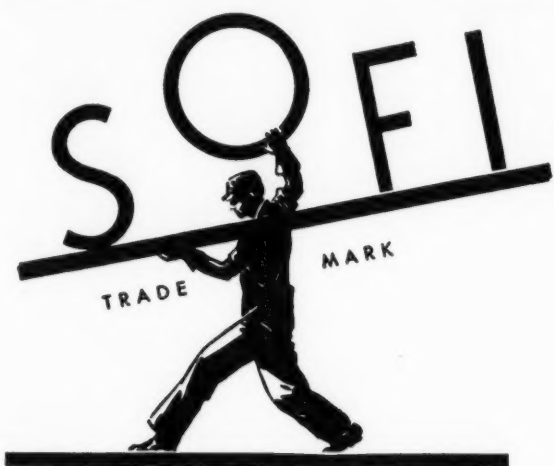
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MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1881

(1121)

IF IT IS HEATED AND VENTILATED WITH UNIVERSAL UNITS IT'S A MODERN SCHOOL

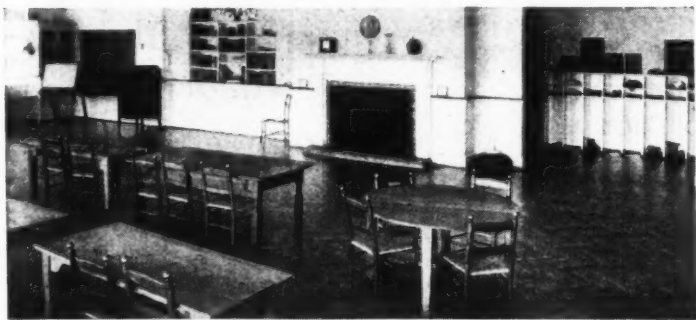


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*Lowest Cost—
Least Upkeep*

By highly developed Mass Production, Southern Oak Flooring Industries has brought the installation cost of the World's Finest Oak Flooring to a point where it is the most economical, high grade flooring available for school buildings.

With newly developed finishes, perfected by leading chemical companies, SOFI provides splendid appearance and supreme durability of the applied finishes. Write for special data and specifications.



SOFI Oak Floors afford a practical example in beauty and decorative harmony of true educational value

Competent architectural research and counsel pertaining to school floors is available on request. Address Industries Research, 932 Boyle Building, Little Rock, Arkansas.

The products of Southern Oak Flooring Industries are conveniently available through local lumber dealers in every grade, size and design adapted to modern school usage. Look for the brightly colored Trade Mark on the bundles.

SOUTHERN OAK FLOORING INDUSTRIES
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IN THE HEART OF AMERICA'S HARDWOODS

GUARANTEED WEATHERING



3-Point Contact around entire window. Guaranteed WEATHER-, DUST- and RATTLE-PROOF. (HALF SIZE DETAIL)



SEALAIR WINDOWS

CUSTOM BUILT
of Bronze, Aluminum Alloy or Nickel Silver

ADVANTAGES

VENTILATION—Easily controlled for varying conditions.

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CLEANING—Exterior can be washed from the inside.

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Write for specifications and details.

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HEALTH PROTECTION *for Crippled Children* ECONOMY PROTECTION *for Budgets*

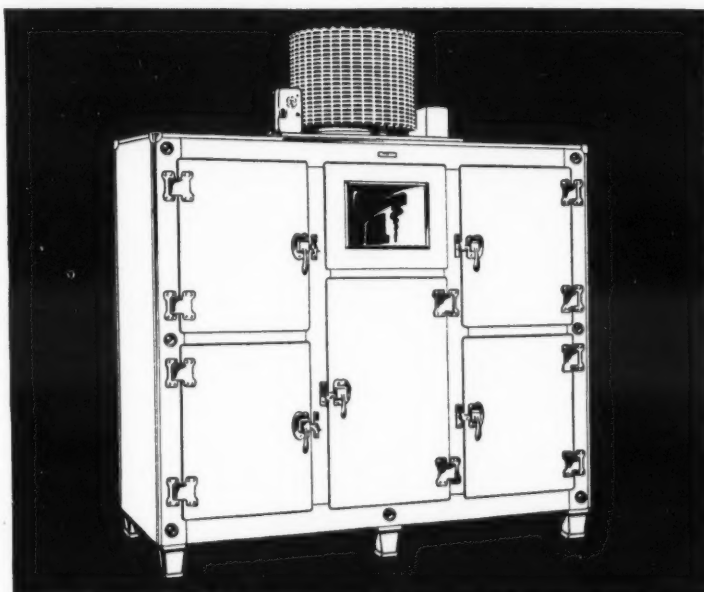
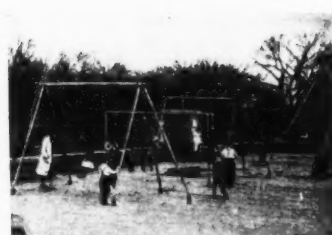
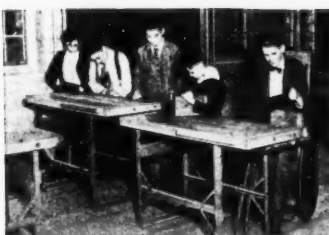
IN DES MOINES, IOWA, small children whom nature has not endowed with perfect bodies find welcome in Smouse Opportunity School. Here they are schooled like normal children. But here, too, their warped, mis-shaped little bodies are built up . . . strengthened with exercise and good food.

In Smouse School . . . in every school . . . food plays an important part in developing young minds and bodies. That's one reason that Smouse and other nationally famous schools own General Electric Refrigerators.

In school cafeterias, where the health of hundreds of children depends on food, General Electric Refrigerators keep perishables fresh and wholesome—free from expensive, dangerous spoilage.

General Electric serves as a definite budget protection. Operating costs are minimized by the efficient, current-saving Monitor Top mechanism, hermetically sealed in steel and permanently oiled. Greater safety is maintained by porcelain-lined interiors that retain no food odors . . . are easy to clean and keep clean.

The full 3-Year Guarantee completely protects your General Electric against service expense . . . assures freedom from refrigeration worries. Insure health and productivity of students and staff . . . eliminate excessive expense from budgets. Have a General Electric specialist give you facts and figures. Call your local dealer now or write us.



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The construction of schools, in accordance with a well organized plan extending over a period of years, is now accepted as the most successful and economical way of providing efficient school structures.

Errors in school planning are perpetuated for many years in the form of inefficient school buildings. Lack of foresight may mean high educational costs for years to come. The solution to this problem is in the employment of a schoolhouse architect, a man who has made a study of the planning and construction of schools.

The selection of the architect is no longer a matter of chance but invariably based on the professional standing and experience of the architect as presented in the pages of the AMERICAN SCHOOL BOARD JOURNAL and conveniently determined by reference of the SCHOOL ARCHITECTS DIRECTORY.

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Illinois, Iowa, and Missouri. Over 20 Years Experience.
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EDUCATIONAL CONSULTANT
160 North LaSalle Street Chicago, Illinois



His teacher thought him dull...



*classroom
noise
made him
appear so*

AS a matter of fact, this child is above the average in intelligence but just because his nerves are unusually sensitive, NOISE affects him more than it does his phlegmatic schoolmates.

Noise confuses the brain—impairs accuracy—and dulls the senses. This has been demonstrated by scientific test and observation. For example, investigation has shown that by quieting ordinary schoolroom noise, the speed of mental multiplication has been increased 30%.

Don't allow noise to handicap the students under your care

...save your teachers from the nerve strain and mental fatigue of working against detrimental and easily remedied sound conditions.

Johns-Manville Sound Control Treatment stimulates clear thinking—reduces fatigue

Noise in disturbing volume need no longer be tolerated in a school. Johns-Manville Acoustical Engineers—pioneers in developing methods of sound control—can eliminate this evil of noise in schoolrooms and corridors. They have developed methods and materials that muffle it to an extraordinary degree. New schools everywhere are applying Johns-Manville Sound Control Treatment. It can be applied at reasonable cost to modernize your present school buildings.

Sound control is a modern aid to education that every school official should investigate. Just ask our nearest office to arrange for a visit by our Sound Control Expert or write Johns-Manville, 292 Madison Ave., New York City.

J-M Sound Control Materials, fireproof and sanitary, are usually applied to the ceiling. They do not interfere with architectural plans, and often actually improve appearances.

More than 3,500 square feet of J-M Sound Control Material were used in the ceiling of this cafeteria of the John Hay High School in Cleveland, O.



Johns-Manville



Sound Control Treatment

School Architects Directory

C. Godfrey Poggi
and
William B. Bragdon
ARCHITECTS

Elizabeth,

New Jersey

ERNEST SIBLEY & GEORGE M. CADY
ARCHITECTS

Palisade, N. J.

Litchfield, Conn.

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School Specialist

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H. D. Rawson A.I.A.
H. Clark Souers A.I.A.
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& THOMAS**

School Architects

Hubbell Building

Des Moines, Iowa

STARRETT AND VAN VLECK
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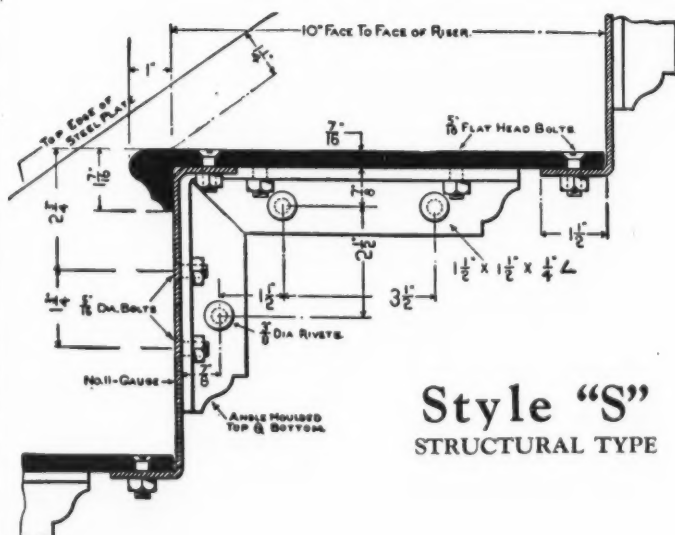
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American Abrasive Metals Co.

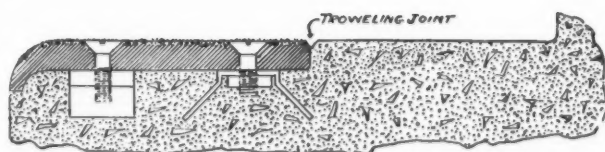
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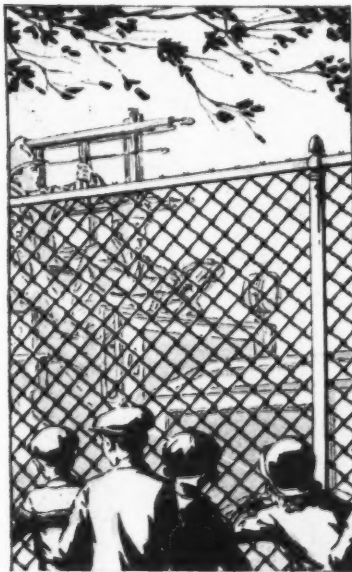


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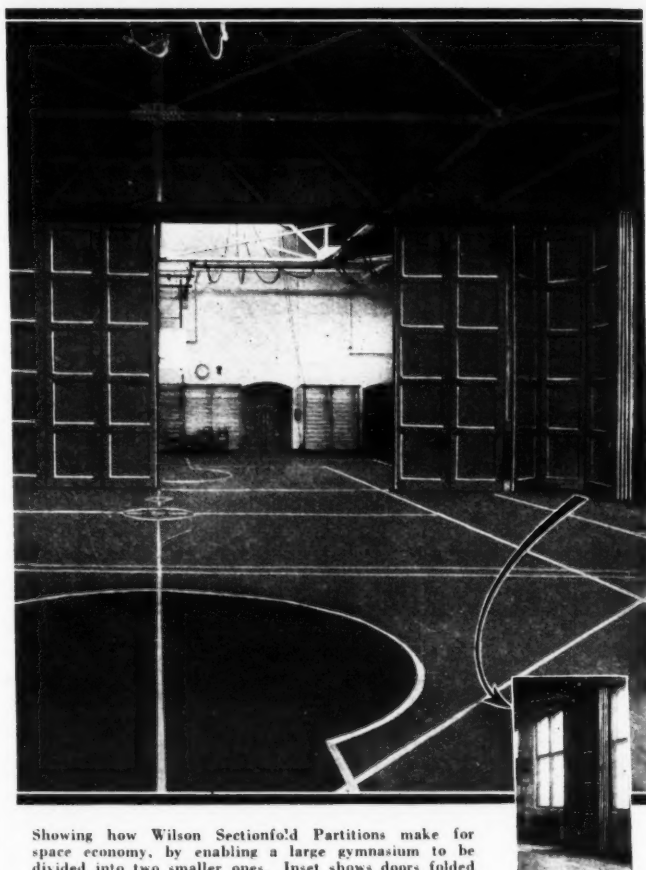
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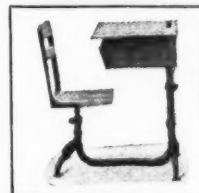
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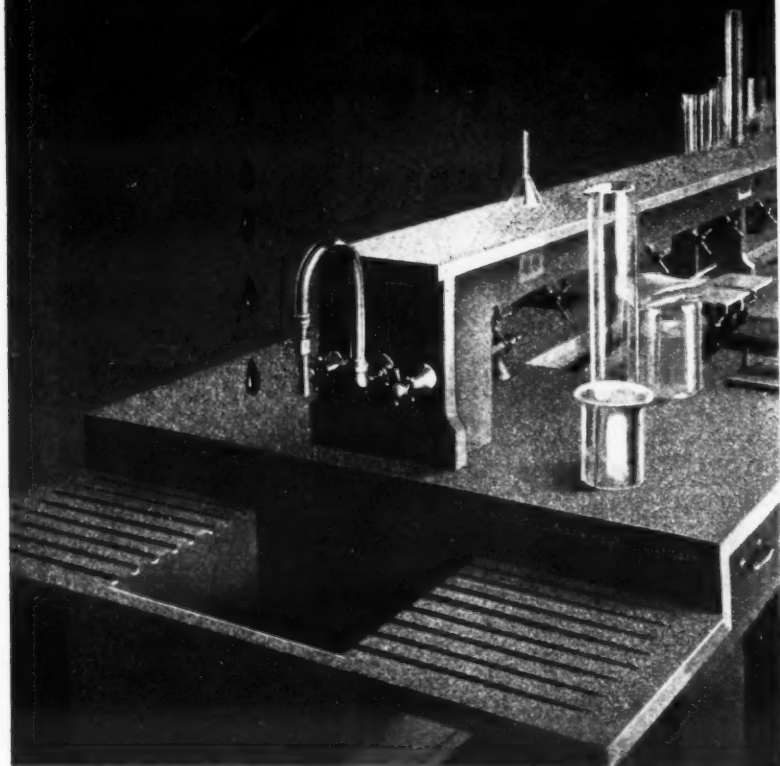
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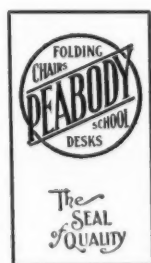


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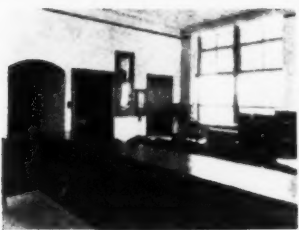
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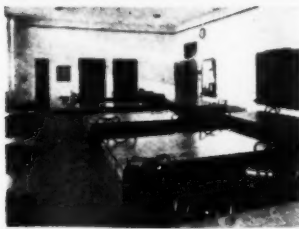
The seal of quality might well be stamped on every piece of PEABODY furniture. An enviable reputation has been built up by furnishing only high grade materials. The value of this reputation is your guarantee in buying school furniture from PEABODY.



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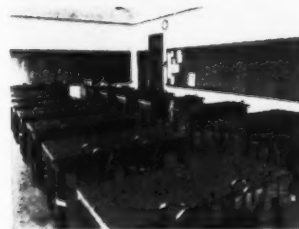
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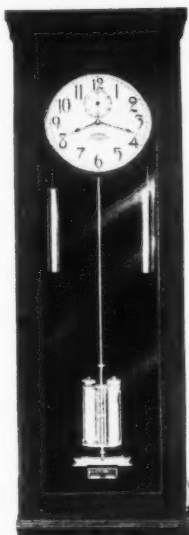
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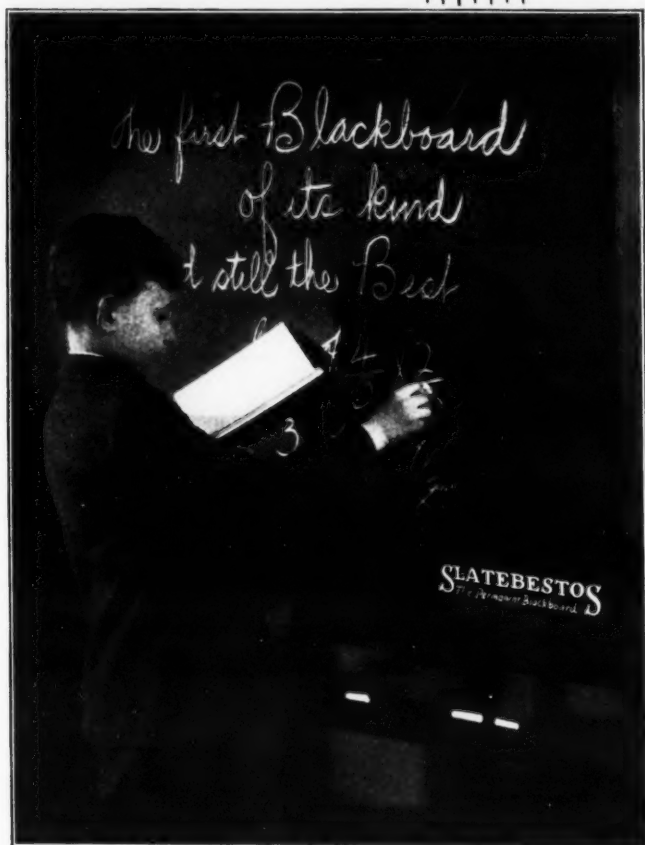


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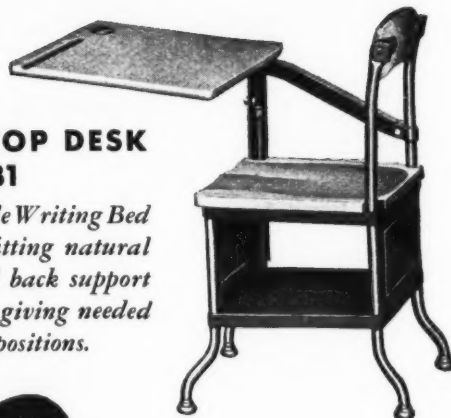
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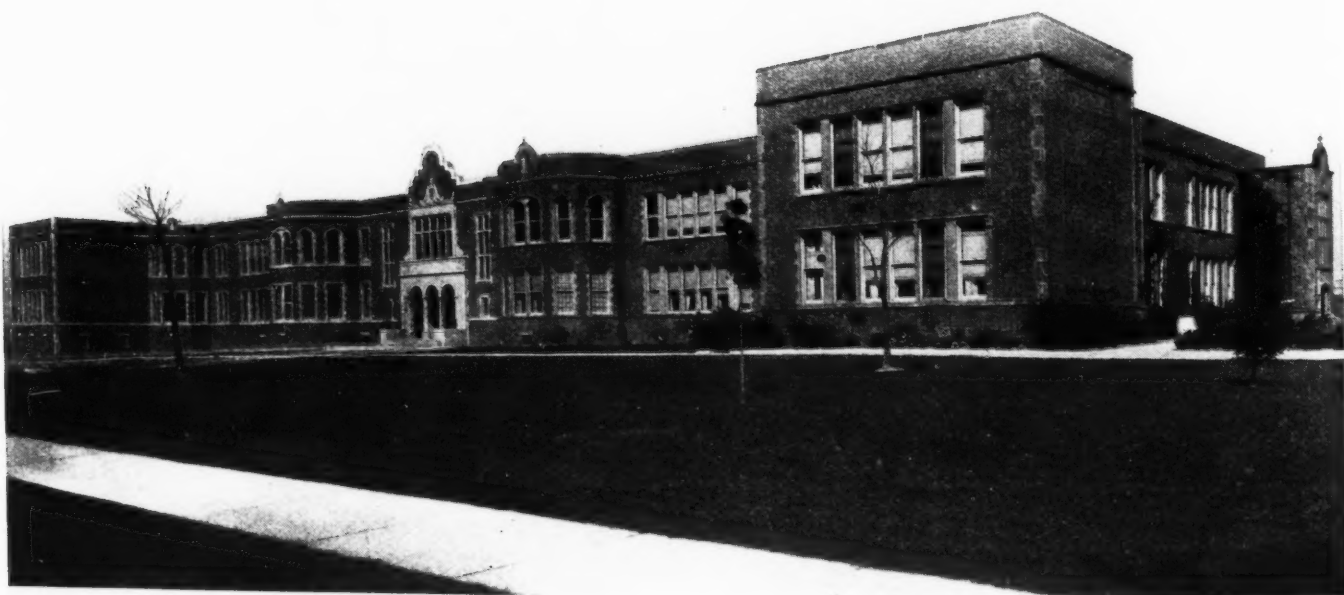
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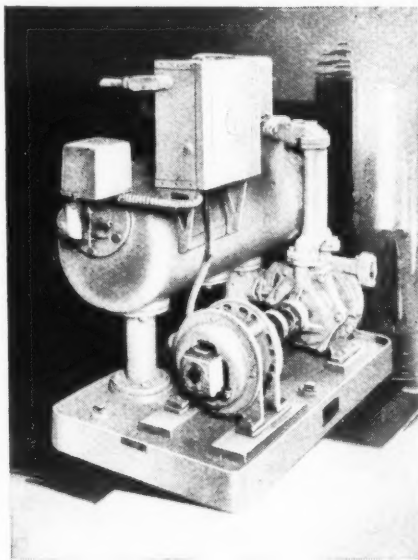
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Above: Lake Bluffs School, Shorewood, Wis.; Eschweiler & Eschweiler, architects, Milwaukee.



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CHICAGO, ILL.

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School Superintendents As Authors

IT HAS BEEN noted in recent years that the college professors produce more manuscripts, dealing with problems of popular education, than do city superintendents of schools. The answer is obvious.

The college professor is permitted time for research and study, and for the preparation of manuscripts. The city superintendent is crowded with the duties of his office, with little time on his hands for extended research labors or for writing. He frequently does well when he manages to absorb the professional literature with which he must surround himself.

And yet, many fine manuscripts dealing with school problems, are prepared by school superintendents. Without disparaging the offerings of the college professor, it should be said that some of the most valuable studies on current educational trends, departures, and solutions come from the busy school superintendent.

And why not? No man is better fitted to discern school problems, and to offer solutions, than the modern school superintendent. He is the central figure of every school system, and is in immediate touch with every phase and problem which attaches to the pursuits of popular education.

The columns of the AMERICAN SCHOOL BOARD JOURNAL afford an eloquent expression of the contribution made by the modern school superintendent to the educational literature of the day. This literature demonstrates the tremendous urge toward higher and nobler achievement in the country's field of popular education.

— THE EDITOR —

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LOCATING NEW SOURCES OF SCHOOL REVENUE

Outstanding Changes in City-School Administration

"One of the outstanding movements among city boards of education is to simplify the administrative organization by reducing the number of standing committees or by abolishing them entirely. Not so many years ago it was customary for boards of education to appoint numerous standing committees. Today many boards are organized without such committees. Although no data have been compiled on the subject since 1927, the movement to reduce the number of committees apparently is still going forward. In 1927, 25 per cent of the boards of education in cities having a population between 30,000 and 100,000 had no standing committees and 38.2 per cent of the boards of education in cities having a population of 100,000 or more had no such committees."

This statement is made in a recent bulletin by W. S. Deffenbaugh, the city-school expert of the United States Office of Education. He then says: "Within the biennium, and even within the decade 1920-1930, there have been few changes in the general or external administration of city-school systems, such as changes in method of selecting members of boards of education, size of boards, length of term for which elected, and the fiscal relationship to city government. Most of the changes in these respects were made between 1900 and 1920."

"The principal changes in the administration of city schools within the past 10 years have been those effected by boards of education and its administrative staff. These changes have related to the administrative organization and to the organization within the schools themselves."

On the abolition of standing committees, Mr. Deffenbaugh presents tables showing that in 1927 there were 21 cities in the 100,000 class that had no committees. The other cities in that class maintained from 2 to 10 standing committees. In the list of cities having a population of 30,000 to 100,000 there are 35 cities without standing committees.

"The median number of standing committees in the 25 cities of 100,000 or more population reporting both in 1917 and in 1927 was 6 in 1917 and 3 in 1927. In the 56 cities between 30,000 and 100,000 population reporting at both dates, the median number of committees in 1917 was 6, and in 1927 the median number was 4."

Mr. Deffenbaugh touches also upon the newer relations which have affected boards of education and the superintendent of schools. Here he says: "The administrative organization of city-school systems is in progress of further simplification by making the superintendent of schools the chief executive officer of the board of education. In the earlier days the dual system—a superintendent in charge of professional matters and a business manager in charge of business affairs—was in vogue. Although the movement to organize on the unit plan may not have gone forward so rapidly as its advocates would have liked, the tendency has been to assign business affairs to an official variously designated as business manager, business agent, purchasing agent, secretary, or assistant superintendent in charge of business, and to make him directly responsible to the superintendent of schools. This plan of organization has been recommended by all the city-school survey commissions in their discussion of the relationship that should exist among the members of the executive staff."

"In the line and staff organization the principal is a line officer, to whom the teachers are

directly responsible. The supervisor is a staff officer, acting in an advisory capacity, with no direct authority over teachers. In the dual organization the teacher is directly responsible to both principal and supervisor—to the principal for school management and to the supervisor for methods of instruction. The coördinate type involves both the line-and-staff and the dual organization. This type of organization does not attempt to separate supervision and administration so distinctly as do each of the other types."

"Possibly no city follows any one of these plans exclusively, but data recently compiled by the Office of Education show that the line-and-staff organization is in operation in more cities than is either of the other plans. Of 54 cities having a population of 100,000 and more reporting, 30 have the line-and-staff, 14 the dual, and 10 the coördinate type. Of 112 cities having a population between 30,000 and 100,000 reporting, 47 have the line-and-staff, 34 the

dual, and 31 the coördinate plan of supervisory organization."

"One of the significant movements in city-school administration worthy of note is the rapid growth in the number of research bureaus or departments. According to data recently compiled by the Office of Education there were 2 such bureaus in 1912, 49 in 1922, and 119 in 1930. The functions of the earlier research bureaus were comparatively few, and the staff of each was small. Today most of these bureaus perform many functions. Among these are testing, curriculum making, guidance, surveys, experimental studies, and financial studies. The size of the staff of full-time workers ranges from 1 to 48. The average size in cities having a population of 100,000 or more is 5.5, and in cities having fewer than 100,000 the average size is 2.3."

Among the many other movements in the administration of city-school systems that are receiving thoughtful attention and that are going forward are provisions for individual differences in children by means of ability grouping, individual instruction plans, and special classes; the organization of junior and senior high schools and junior colleges; the platoon plan; and curriculum revision.

A Schoolman's View of That Board of Education

Willard C. Jackman, Wakefield, Nebraska

The other day I happened to talk with a young superintendent about schools and school-work. Our conversation drifted to the subject of school boards. My friend pictured a board of education as a group of eccentric men with pet hobbies, who want in a superintendent merely a hired man to carry out these hobbies. He ended by asserting that "he would not get down and crawl on the ground for any board member," and for that reason he was leaving school-work.

There is nothing startling or even original in this rash viewpoint, but at that the statement set me to thinking. In my opinion and based on my experience the sentiment is all wrong. Too long we have had the doctrine poured into us that the superintendent should stay in his little cage and the board of education should stay in its cage, emerging now and then for a session of active sparring. Too long has the idea prevailed that small-town board members are old fogies, with no idea of modern education for the children of the community. The result is inevitable: A progressive program of education never can be worked out in any city or town where the superintendent has the mental complex expressed in the preceding sentences. Such a superintendent is the old fogy, but he doesn't know it. He, rather than the school board, holds back promising possibilities to make things hum educationally in small towns.

A few weeks ago a board of education in a city of fair size was about to select a superintendent. In his interview with the board one applicant noted this statement regarding the retiring executive: "We hate to see him go. He has always treated us as if we knew something about our schools. He has always been careful to get our opinions about matters of interest in the schools." These few words tell the whole story of coöperation between a school board and superintendent. The members of a board know in the main what should be accomplished in the school system; they hire a superintendent to develop policies for their considerations; if they approve, they pay the

bills. The situation and procedure are not unlike with most city daily papers where the owner seldom is also the managing editor; or a city department store in which the owner spends little time in an office under the store roof.

We should remember that as a rule the superintendent of schools comes into a community as a temporary resident, too often hoping that his service there may be of short duration. He professes to see his position as one of educational service, but unconsciously he is alert to every chance to move to a bigger job. He does not identify himself with the community for a term of five, ten, or twenty years, and consequently his viewpoint is different from that of the board member who is a permanent resident and has personal community interests.

A superintendent usually can depend on his board to support a program for better schools if he presents facts and needs in a convincing way. Many board members have children among the pupils, thus furnishing a natural bond of connection with the school.

Then, too, each board member almost invariably serves without compensation. His election is a well-earned mark of confidence of his fellow citizens. He spends most of his day-time hours earning his living, but as a board member he devotes whatever time is needed to the complex business of the school.

The busy men who compose the school board, are in effect a legislating body, open-minded, and ready to receive facts and to act accordingly. The wise superintendent keeps all this in mind and shows appreciation of his board by seeking their advice and coöperation in every possible way.

If a superintendent will see this picture of his board of education and will clear his mind of these false notions, he will no longer pity himself as a mere puppet whom the board is aiming mainly to destroy. Rather, he will see himself as a man free-born and qualified to serve with these other men in an organization that transacts the biggest business in the nation.

Trends and Problems in Elementary-School Organization

Henry J. Otto, Northwestern University

In 1885 J. D. Philbrick, the man who is credited with having established the Quincy Grammar School of Boston in 1847, which was the first graded school in America, wrote an extended treatise on the organization of city school systems.¹ His report, based largely on his experience and acquaintance with educational practice in city schools, contains very little objective data to show the prevalence in the country at large of the various administrative practices. Since that date a number of surveys of particular aspects of elementary-school organization have been made, yet no one of them has treated in a comprehensive way the general administrative procedures which have been incorporated in elementary-school organization. They have treated largely of promotion and classification plans and departmental teaching. Hence there is little data with which present practice in cities with a population between 2,500 and 25,000 may be compared to show trends and developments.

Without detailed comparisons it may be hazardous to imply that a survey of prevailing practices gives an adequate basis for indicating what may appear to be trends in the organization of elementary schools. Some may believe that the newer developments in educational administration are not to be looked for in cities of the size included in the present study. There are also those who believe that trends are suggested by the extreme variations from the prevailing practices, by the changes on a small scale which are being tried in a certain school or section of the school district. However true any or all of these assumptions may be, it seems that a survey of the prevailing practices pictures school systems, in the main, as they are, and if new movements are not clearly portrayed, they are not in general operation in the school systems. Such a survey probably shows the extent to which the newer educational theories have found expression in the organization of the schools.

When the study upon which the following statements are based was initiated, it was hoped that information might be obtained with reference to the practices which had been discontinued and those which had been adopted as well as the years in which such changes or modifications in organization took place. Although, for certain procedures, a number of superintendents reported the date of adoption in the local system, an analysis of the data does not indicate clearly any definite trends. In most instances each of the devices was established by approximately the same number of districts during any one of the five-year intervals since 1915. This applies to practices found in a large proportion of the systems as well as those which are found in a small percentage of the districts. Since school systems have usually not kept accurate records of changes in administrative practices, one may question the accuracy of some of the dates reported. Only a very small number of the superintendents recorded one or two procedures which had been discontinued.

Trends in Elementary-School Organization

The typical elementary school, as previously described,² represents in large measure, the traditional practices. These are being applied in a new administrative unit—the six-year elementary school. Although no comparable

Note.—This important paper outlines the main trends in improving the organization of elementary schools. A previous paper on administrative policies was published in the September issue.—Editor.

data are available, general inferences may be drawn from the surveys of practices which have been made. Studies by Boykin, (1890),³ White (1891)⁴ and Prince (1898)⁵ show that, in the majority of the school systems surveyed at the time, children were promoted annually on the basis of teachers' marks and teachers' estimates. Similar practices are in vogue in over half of the districts included in the present study.⁶ Adaptations of the organization to provide for the individual differences of pupils are largely absent in most of the systems investigated. If the newer theories and philosophies, which have placed increasing emphasis on the educational significance of individual differences, have found expression in the public schools, the facts are not evident from the administrative practices revealed in the present study. Detailed classroom procedures, however, were not treated in the investigation.

Despite the rather traditional type of elementary school which has been portrayed, one may note practices in some of the systems which probably are suggestive of some trends in the organization of elementary schools. The proportion of systems which report six-year elementary schools suggests the increasing tendency to adopt the six-year unit for the administration of elementary education. Kindergarten, first established in the public schools about 1870, are now found in 52 per cent of the districts studied. Teaching on the departmental plan, first started in New York City in 1900, is practiced in 84 per cent of the eight-year and in 37 per cent of the six-year schools. Although the latter plan prevails more commonly in the upper grades of the eight-year schools, it was reported frequently for grades five and six and is found in operation in all grades in a few systems. Segregation of atypical children into special classes, a practice which began in public schools about 1895, is now provided in 38 per cent of the cities investigated. The type of special class most commonly found is that for pupils of subnormal intelligence. That more attention is being directed toward the problem of adequate educational provisions for superior pupils is suggested by the establishment of special classes for this type of children in 3 per cent of the systems.

Other devices (not necessarily recent developments) for the recognition of individual differences are represented in some districts, by the adoption of individualized teaching procedures in some subjects, division of the curriculum content into a number of printed or mimeographed units, each accompanied with sufficient directions to permit individual pupil progress with a minimum of teacher assistance; the division of the curriculum into several parallel courses, the faster pupils taking one course while the slower pupils take another; and the content of the course is covered completely during the first half of the term and

again during the second half of the term, but bright pupils are not asked to repeat the work the second half of the term. Some systems have arranged for extra help for pupils who need instructional assistance during an hour definitely set aside for this work in the regular program. Certain districts provide in each classroom a helping teacher who assists slow pupils, while other schools have established "special-help" or "remedial" or "coaching" rooms. A small proportion of the systems have undertaken definite steps to enrich the work for bright pupils and to establish minimum essentials for the duller children. A few of the superintendents indicated that the pupils in each classroom are divided into three or more groups for instructional purposes; the sections are very flexible so that constant regrouping, according to the needs of pupils, takes place. It is of particular interest to note the extent to which standard objective mental and achievement tests are being used in the classification and promotion of pupils.

The majority of the practices which are found in only a small proportion of the schools are not procedures which have come into elementary-school administration during the past ten or fifteen years. Many of them were revealed, in modified form in the surveys to which reference has been made.

Problems in Elementary-School Organization

A review of the data presented in this study gives little by way of indication as to the most desirable and the most effective practices in elementary-school organization. When the study was first initiated, plans were made to submit to experts for their judgment the various practices which would be revealed by the check lists. A more careful study of the data caused a change in plan. No doubt the administrative practices which have been discussed would be rated by experts as having varying degrees of desirability. It was believed, however, that the rating of isolated practices, quite apart from the complete administrative and supervisory plan and apart from the many factors, such as personnel, school plant, tradition, and the whole local environment, might be very misleading. Experts may judge devices or procedures in terms of their own experience with them in specific situations, and in the absence of scientific evidence of the relative desirability, have no means of evaluating isolated practices effectively.

The varying conditions under which local school systems operate makes it difficult to specify the exact method which ought to be followed in determining and in bringing into school systems those practices which are found to be most effective. Broady suggests a careful analysis to determine the relative advantages and disadvantages of all the major proposals for reorganization and then to modify the traditional elementary-school organizations so as to embody a maximum number of the advantages and a minimum number of the disadvantages of the methods studied.⁷ It is difficult to understand, however, how the relative merits of various practices are to be determined unless extended research is carried on.

An approach for the evaluation of aspects of school organization, similar to the plan suggested by Broady, is represented by *A Rating Scale for Elementary School Organization*.⁸

¹K. O. Broady, "Organization of the Elementary School," *THE AMERICAN SCHOOL BOARD JOURNAL*, 81: 35-36, December, 1930.

⁸P. R. Mort, *A Rating Scale for Elementary School Organization*, Bureau of Publications, Teachers College, Columbia University, 1930.

³J. C. Boykin, *Class Intervals in City Public Schools*. Report of the Commissioner of Education, 1890-91, pp. 1003-4.

⁴E. E. White, *Promotions and Examinations in Graded Schools*, United States Bureau of Education, Circular of Information, No. 7, 1891, pp. 16-21.

⁵J. T. Prince, "Some New England Plans and Conclusions Drawn From a Study of Grading and Promotion," *Addresses and Proceedings of the National Education Association*, 1898, pp. 423-432.

⁶Henry J. Otto, *Current Practices in the Organization of Elementary Schools*, to be published by Public School Publishing Co., Bloomington, Ill.

¹J. D. Philbrick, *City School Systems in the United States*, United States Bureau of Education, Circular of Information, (1885), No. 1.

²Henry J. Otto, "Administrative Practices Followed in Elementary School Organization," *AMERICAN SCHOOL BOARD JOURNAL*.

This scale is divided into four parts as follows: progress and adjustment of pupils, educational activities, school environment and morale, and services. In the preparation of this rating scale many administrative and supervisory practices which condition in part the functioning of the rest of the organization have been omitted intentionally. The score card has the weaknesses of all devices of this kind which endeavor to evaluate unrelated factors on a composite scale. Also, several significant aspects of organization which probably have an important bearing on pupil progress have been omitted. Some will contend that many of the items which are found in the rating scale that pertain to method, classroom equipment, and school morale have only a very remote relationship to organization. But regardless of what individual idiosyncrasies might want to exclude or include in such a rating device, one may raise the fundamental question as to the desirability of the type of procedure involved in the application of such a scale. In the face of the limited amount of scientific evidence pertaining to aspects of school organization which is now available, it is questionable whether the use of such a device has much significance. It may tend to postpone research in this field. Again, to obtain a high score the principal may emphasize those items which are rated high on the score card but which in actuality may not be the significant elements to improve organization.

According to the information supplied by superintendents it seems that, in the past, administrative procedures, recommended in professional literature or observed in operation in other school systems, have been adopted by local districts and have become the accepted practices without subjecting them to a preliminary trial period to ascertain their relative merits in particular situations. The check list provided an opportunity for superintendents to indicate whether the practices reported by them were considered experimental in character. Invariably the response obtained was negative. The items for which the largest number of affirmative replies were received have been summarized in Table I. Two significant facts may be noted. One is the small proportion of districts which consider any of the practices as experimental, or "on trial." The other is the fact that the ways of doing things which are found in a large percentage of the systems are looked upon as experimental by a much smaller proportion of districts than are the procedures which are operative in comparatively few systems. Although the per cent of schools which apply a certain device may not be a measure of the length of time a practice has been in vogue in schools, it appears that the more common and the more traditional practices continue to be accepted without subjecting them to critical study and investigation.

In most cases even those practices which had been adopted recently were not looked upon as being in the formative, or trial stages. From the comments made by the superintendents it is clear that, even in the districts in which certain plans are considered experimental, carefully controlled investigations are not being conducted. The procedure is merely "tried out," that is, tentatively adopted on trial.

The Commission on Length of Elementary Education, after summarizing data from 610 typical school systems in the United States regarding the type of organization, the length of the school day, the length of the school year, age of admission to the kindergarten and the first grade, percentages of enrollment in various grades, the subjects offered, the number and the qualifications of teachers, and the average number of pupils enrolled per teacher, concluded that there was no standard elementary

school.⁹ In the present study, although the proportion of the districts in which certain of the practices were found suggests a more or less standard elementary school, the reader's attention has been called repeatedly to the wide variations in practice. If such different plans of procedure are now applied effectively, it is likely that material modifications of the practices now in vogue might be made in certain of the systems without seriously hampering the

of activities which may be carried on in the gymnasium or the auditorium. Should pupils of all grades participate? How frequently shall each class group participate? What are the most valuable activities for the different grades?

As indicated previously, the entire administrative and supervisory organization for elementary education in local communities may depend largely on the physical plant which is made available. The data from the school sys-

TABLE I. The Number of School Districts in Which Certain Practices are Considered Experimental in Character. Six-Year and Eight-Year Elementary Schools, 1929

Practice	Number of Districts Which Have Practice	Number of Districts Which Consider Practice Experimental
The pupils of any one grade are divided, on the basis of intelligence or other measures, into two groups.....	165	14
Individualized instruction in academic subjects.....	44	12
Semidepartmentalized, teachers move about from room to room.....	74	7
Program arranged so one half of pupils do academic work while the other half are engaged in special subjects, shop, auditorium, and playground.....	39	4
Annual promotions.....	252	11
Semiannual promotions.....	126	2
Promotion by subject.....	53	5
Double promotions for capable pupils.....	225	7
Able pupils advance more rapidly but without skipping grades.....	108	4
Use a locally prepared course of study.....	130	19
Enrichment for bright pupils is definitely planned.....	56	9
Content of each subject divided into small printed or mimeographed units, increasing in difficulty, each step in the process accompanied with sufficient directions so pupils may work with minimum of teacher assistance.....	20	7
Content divided into several parallel courses. Fast pupils take one course, slow pupils take another.....	28	4
Pupils may be asked to come for extra help during an hour definitely set aside for this work in the regular program.....	97	5
Within each room is a helping teacher who assists slow pupils.....	23	1
Program provides for "special-interest" classes.....	30	3

product of the schools. If the latter statement is true, then the extreme variations in practice ought to pave the way for research in school organization. The fact that superintendents report the years in which administrative devices were adopted suggests that at least some changes in school organization are being effected. This also ought to prove an entering wedge for experimentation.

If local school systems can be persuaded to undertake the task, the opportunities for research are not wanting. For example, modern educational theories have proposed a broadened and enriched elementary-school program. As a part of that program, activities involving the use of the auditorium and the gymnasium have been advocated. Elementary schoolhouses have frequently provided these facilities as a part of the elementary-school plant, yet there is little scientific evidence available to indicate the values derived from the auditorium or gymnasium activities. Many of the school districts included in the study do not have one or both of these facilities in the elementary schools. Some districts have them in some of the buildings but not in others. The latter group of school systems ought to be in an excellent position to study scientifically the relative values which may be derived from the various types

⁹C. H. Judd, (chairman), *Report of the Commission on Length of Elementary Education*, Supplementary Educational Monographs, No. 34, University of Chicago, 1927, p. 34.

INCREASED EDUCATIONAL OPPORTUNITIES

The United States Office of Education has published facts showing that the average American boy and girl of 1931 received two more years of schooling than the average boy and girl of 1914. The school child of 1931 is one of a class of 30 pupils, while his parents of the 1910 school year belonged to a class group of 34 pupils. The chances of the child of 1931 going to high school are now one in two, and the chances of going to college are one in six.

tems surveyed show that some districts house all elementary-school pupils in one or more large buildings, that is, buildings having twenty or more classrooms. Other cities with similar enrollments are housing their pupils in a large number of small buildings (one to three or four rooms) scattered throughout the district. In many of the small buildings pupils from all six or all eight grades may be found. Doubtless the plans followed in the classification of children, the distribution of teaching duties, and other administrative and supervisory practices differ materially under such varying circumstances. In view of the needs of children, the most effective utilization of teaching skill, the plan for supervision, in fact all aspects of school-work and their related costs, are there not some situations which are to be desired more than others? The question may well be raised as to what is the most effective plan for the organization of local schools. A proposal for a three-fold division of the local organization suggests a primary unit consisting of the nursery school, the kindergarten, and grades one to four inclusive, an intermediate unit consisting of grades five to nine inclusive, and a secondary unit consisting of grades ten to fourteen inclusive.¹⁰ Research to determine the desirability of this proposed plan might well embody a study of the most desirable practices to be applied in each of the suggested administrative units.

As one reviews the plans now followed in the systems studied in the classification and promotion of pupils, it seems evident that current practices do not bring together into class groups pupils who are homogeneous from the point of view of teaching and learning. Research has revealed wide differences in the traits, abilities, and capacities of pupils of the same age and grade. To date no satisfactory methods have been found whereby pupils may be classified so as to secure groups which are really homogeneous as far as teaching and learning are concerned. Even if measures could be designed

¹⁰Fred Englehart, "Determining the Plan of Organization for a Local School System," *School Executives Magazine*, 50: 75-76, Oct. 1930.

which, if applied, would bring together class groups which would be homogeneous from an instructional point of view, each of the groups thus formed would be quite small. The enrollments in many of the schools studied are small, so that classes organized on the basis of meticulous measures would be administratively impracticable. This fact would apply particularly in districts in which many small buildings have been erected. Hence, it may be well to recognize fully that for some time to come, and probably always, teachers will be confronted with complex teaching situations.

Studies in ability grouping have shown rather wide differences in the abilities and in the rates of progress of different pupils within the same sections, and have also emphasized the fact

¹¹S. A. Courtis, "Data on Ability Grouping from Detroit," *Twenty-fourth Yearbook of the National Society for the Study of Education*, Part II, Public School Publishing Co., 1925, pp. 141-147.

W. S. Miller and H. J. Otto, "Analysis of Experimental Studies in Homogeneous Grouping," *Journal of Educational Research*, 21: 95-102, February, 1930.

A. H. Turney, "The Status of Ability Grouping," *Educational Administration and Supervision*, 17: 21-43 and 110-128, January and February, 1931.

T. L. Purdon, *The Value of Homogeneous Grouping*, Warwick and York, 1929.

that mere segregation without a modification of method and procedure for pupils of varying levels of ability is ineffective.¹¹ If full recognition is given to the individual needs and capacities of pupils, the major educational decisions with reference to content and method will be made by the classroom teacher. To do this task scientifically and effectively well-trained teachers will probably be needed. To permit such teachers to function effectively it may be necessary to accord them great freedom in the choice of content, method and materials. A full acceptance of the importance of the classroom teacher may have significant implications for administration and supervision.

At present there is little experimental evidence to show the preference of one administrative practice over another. In the past, investigations, such as those carried on at Winnetka,¹² Detroit,¹³ Gary,¹⁴ and the Report of the Commission on Length of Elementary Edu-

¹²C. W. Washburne and others, *The Winnetka Public Schools*, Public School Publishing Co., 1926.

¹³C. L. Spain, *The Platoon School*, The Macmillan Co., 1924.

¹⁴S. A. Courtis, *The Gary Public Schools, Measurement of Classroom Products*, General Education Board, New York City, 1929.

cation, have endeavored to evaluate gross organization, rather than detailed practices. The studies by Collings¹⁵ and Meriam¹⁶ and the experiment in individualization which is being carried on at Winnetka indicate that material modifications may be made in the classification of children or the curriculum or both without producing inferior educational results. Detroit, in 1928, undertook an extended study to determine what degree and what type of individualization are most effective.¹⁷ The vertical grouping plan, the Winnetka plan, and the Dalton plan were chosen to represent three different forms of individualized procedure. The primary criterion in the Detroit study is to be the amount of pupil growth. The secondary criterion is to be administrative feasibility and costs. The results of this study, when available, will no doubt shed much light on the problem of the most effective organization for elementary education.

¹⁵Ellsworth Collings, *An Experiment With a Project Curriculum*, The Macmillan Co., 1929.

¹⁶J. L. Meriam, *Child Life and the Curriculum*, World Book Co., 1927.

¹⁷W. Vreeland, "Detroit's Experiment on Individualization," *School and Society*, 32: 398-402, September 20, 1930.

How Salt Lake City Maintains Beautiful Wood Floors

Howard Barker, Superintendent of Buildings and Grounds, Board of Education, Salt Lake City, Utah

The care of floors is one of the important elements in the maintenance and operation of any school plant. Still in many instances present methods are the same as they were twenty years ago. The daily sweeping with the floor brush, either with or without sweeping compound, the periodical scrubbing with soap and water, and the occasional cleaning with caustics are the general system followed in hundreds of school buildings. Little thought seems to be given to the fact that this system is probably the worst which could be chosen as regards the life and serviceability of the floor. Also, many school executives seem to be ignorant of the fact that other systems are available which give much better results at less cost.

The oil-mop system, or liquid-wax system of floor care, as it is sometimes called, is rapidly replacing other methods in caring for wood floors and is also being applied to other floor surfaces such as battleship linoleum, terrazzo, cement finish, etc. This system, as used in the Salt Lake City schools, is as follows:

Preparation of Old and New Floors

After proper sanding, the new floors are given one coat of a so-called "floor preservative." This type of floor dressing has a clear varnish vehicle and is sold under various trade names by different manufacturers. It has been developed for sealing, preserving, and beautifying wood, linoleum, cement, and magnesite floors. Considering the density of the surface on which it is applied, it penetrates deeply, dries to a dull eggshell gloss in about five hours and produces a hard smooth surface which is ideal for the later application of the floor oil (or wax or varnish). One gallon of this floor preservative will cover about 600 square feet of new maple floor.

If old floors are in good shape as regards smoothness, they are first scrubbed thoroughly to remove as much dirt, spots, and stain as possible. Then, after the wood is entirely dry, the floor preservative is applied. In case the flooring is cupped or worn uneven, the entire surface is sanded and then treated the same as if it were a new floor.

After the floor surfaces have been prepared as noted above, a thin coat of floor oil is applied. This application is made with a yarn

mop—the same kind is later used for sweeping—the mop being dipped in a bucket of oil and then wrung out in a wringer. For this treatment one gallon of oil will cover about 800 square feet of floor area. About three quarts are required for an ordinary classroom measuring about 22 by 28 feet. After allowing about two days for the oil to soak in and dry, the floor is ready for service.

The Daily Mopping

The daily sweeping is done with the oil mop. This sweeping consists of pushing or pulling the oil-dampened mop across the floor, the mop picking up the dirt and at the same time leaving a very thin film of oil on the floor. The foot traffic then does most of the polishing, but the oftener and harder the floor is rubbed with the mop the faster will a fine, finished surface develop.

In sweeping corridors, gymnasiums, and other open spaces, a mop having a spread of about 3 or 4 feet is used. At each end of the space being swept the janitor shakes out the accumulated dirt, gathering this up with a hand brush and dustpan at the end of the mopping process. For classrooms or similar spaces, where considerable fixed or movable furniture is encountered, mops having spreads of from 10 to 20 inches are used.

After the men get the knack of handling the mops, they become quite expert in their use. In fact, one man in Salt Lake City does his sweeping under fixed classroom seats by throwing a handleless mop down through the rows of seats. Each throw usually goes the full length of a row so that a part of the dirt is picked up by the mop and the balance is forced into the aisles. One trip down each aisle with the regular mop then finishes the process.

At points of heaviest traffic, as in doorways, aisles, etc., the surfaces often wear to a lighter finish than do the surrounding spaces. In order to keep a uniform surface throughout, these spots may be touched up occasionally with a cloth moistened with oil. With most oils so far tried, the portions of the floor which receive no foot traffic have a tendency to turn black, usually indicating that too much oil has been used. Dust settles into the excess oil before it dries out, each application adding another thin film of oil and dirt until a dark, gummy layer

about as thick as a coat of paint is apparent. When this has once formed, it may be removed by rubbing with a cloth moistened with a 50-50 mixture of the floor oil and water, preferably mixed and applied warm. This tendency to darken around the edges is much more apparent with some makes of oil than with others.

An Alternate Method

Either new or used floors may be brought to a good finish without the use of a floor preservative or seal, as outlined above, by either spraying or mopping a heavy coat of the oil or dressing directly onto the floor and then following up with the routine mopping. A gallon of oil so applied will cover from 500 to 600 square feet, depending on the penetrating power of the particular oil used, and upon the nature of the wood. If this procedure is followed, it is best not to apply the first heavy coat of oil on the areas which receive no foot traffic. This will minimize or entirely eliminate the formation of dark edges, the routine sweeping with the moist mop adding enough oil to bring out the surface finish similar to that of the rest of the floor.

This direct-oil-treatment system is recommended by several manufacturers' representatives, and with a sufficient expenditure of material, energy, and time, this system may possibly produce floor finishes which will equal the results obtained by the other process. The experience of Salt Lake City, however, during the past two years indicates clearly that the system which includes the application of floor preservative not only speeds up the whole process, but also produces the desired finish with much less energy and at less expense.

Nature of the Floor Oil

Although the term "oil" has been used throughout this article to indicate the material used on the so-called "oil mop," the different manufacturers of the products which have been tried out refer to their products also as "liquid wax," "chemical floor dressing," "floor oil," etc. There may or may not be marked chemical differences between the various products which give similar results—and from the writer's point of view a knowledge of the exact composition of the material is not of primary

(Concluded on Page 90)

Teachers' Salaries

C. L. Vestal, Vice President, Men Teachers' Union of Chicago; Former Chairman School Finance Committee, American Federation of Teachers

I

An adequate treatment of this subject would require months of research and a volume of discussion, so a single article can only present the central ideas. The subject itself is always a live one, not only to teachers, but to superintendents and boards of education as well, because these are the trustees and administrators of public funds and must finally depend for their tenure and success upon public favor. It is therefore inevitable that they should scrutinize school salaries with a critical eye, particularly under the present depression-protest against taxes, but it is equally inevitable that this scrutiny should cause uneasiness among teachers, since their standards of living, and to some extent of their service, depend upon these salaries. It is my hope that this article may contribute a little toward a better mutual understanding between teachers and boards of education upon this very sensitive subject. I will first, therefore, show briefly why I appreciate the difficulties which it makes for superintendents and boards of education and yet speak with some weight and emphasis for the educational side of it.

The Writer's Viewpoint

In the first place, I speak not only as a teacher, but as a taxpayer on a considerable home property in a close-in suburban residence town in which taxes are quite high. In the second place, I have had the good fortune, through my wife who has recently completed six years as a member of our local board of education, to be brought into contact with the financial side of operating the public schools. In the third place, I have for 25 consecutive years been a classroom teacher in high schools in small cities and in the very large city, and during 20 of those years I have been active in teacher organizations, both as member and as officer. Naturally I have met teachers of all degrees of ability and all kinds of outlook, and I have no hesitation in saying that an overwhelming majority of teachers are cautious, conservative, and constructive, putting the interests of the pupils first. They are human, however, and so, like superintendents and members of boards of education, they will start when the "pocket nerve" is touched.

II

Teachers accept the fact that the question of their salaries is not an isolated one, but is a part of the whole problem of operating the public schools. Therefore they would ask about salaries these two questions: First, are they fair and just in the circumstances? Second, are the circumstances as good as conscientious effort can make them? Upon these questions teacher leadership would, I believe, accept substantially the position indicated by the following propositions:

A. It is in the interests of education itself, and therefore of the public, that ample salaries should be paid for good educational service.

B. The resources and wealth of the nation fully justify a demand for, and an expectation of, such salaries.

C. A serious attempt should be made by boards of education to eliminate the competitive or "supply-and-demand" element from the determinants of salary levels, by finding and evaluating the factors which should determine those levels on a socially constructive basis.

D. Boards of education should always be alert to raise the standards and widen the scope

School boards will be particularly interested in this sane discussion of the present pressing problem of teachers' salaries. The author has been for twenty years a teacher in the Carl Schurz High School, and is at present instructor of physics with seniority over the six teachers in the department. Mr. Vestal understands in a rare way the problems and difficulties of both school boards and teachers.—The Editor.

of the service of the schools to the community, and to keep salaries up in proportion to such improvement.

E. If "retrenchment" becomes unavoidable, all other items of school expenditure should be rigidly scrutinized for that purpose before salaries are touched.

1. The system of economics under which our civilization operates puts service on the basis of reward. That may not be the ideal arrangement, but it is practicable. Hence it is with educational as with other services; if we want the best we must pay accordingly. Or, to put the more socially constructive face upon it, if we pay well we may justly require high standards of service. Teachers will take that position in regard to their salaries, recognizing that it is the only practicable business relation between society and its servants.

National Wealth and Expenditures

2. Unfortunately the 1930 census figures on aggregate national wealth and income are not yet (Sept. 1) available. The latter has been expertly estimated (Of. Commerce Yearbook for 1930) at somewhere between \$80,000,000,000 and \$90,000,000,000 a year. It was estimated at about \$86,000,000,000 in 1927, so the larger figure is probably the more nearly correct now. In that case the yearly national expenditure for public common schools is only 2 per cent of that income, on the same basis that expenditure is less than one half of one per cent of the national wealth. Savings deposits alone are eight to nine times the yearly cost of all tax-supported education. It hardly seems, therefore, that an educational expenditure of even twice the present one could be called excessive.

But, there is another circumstance which makes teachers impatient with the "can't afford it" protest against school costs. Our people spend in one year almost as much for tobacco products alone as for all tax-supported schools below collegiate grade—which means something over \$2,000,000,000. Their combined expenditures for theater and movie admissions, soft drinks, candy, ice cream, chewing gum, jewelry, perfumes, cosmetics, sporting goods, and toys is more than twice the educational expenditure, or considerably more than \$4,000,000,000. An expenditure of \$2,000,000,000 a year for the public schools and \$6,000,000,000 a year for all of the luxuries above named! Even politicians should find it hard to laugh that off. Teachers have nothing against most of these gratifications, but they feel that this parallel renders ridiculous any complaint about the cost of the public schools. It seems equally evident that the nation can amply afford the best in education for its children.

3. Because of indirection and disguise, neither teachers nor board members think of teachers' salaries as being competitive. To illustrate: one teacher who had been unsuccessful in obtaining a certain position said to me: "I don't see how competition had anything to do with it. The girl who did get the place is to

have the same salary I would have had." Probably, but suppose that the board concerned had not received any applications at all for that position—what would have happened? Either the salary would have been raised until applications did come in, or the position would have been abolished. In other words, the board pays for educational service just what the ratio between the supply of, and demand for, teachers makes it necessary to pay, for the quality and type of service required.

A Better Salary Basis

This is not said in criticism of boards of education. They are almost never consciously unfair to their employees. It is a plea for a change in point of view. Boards of education are largely composed of business men and they naturally regard the financial side of school operation as a purely business proposition. In business it is taken for granted that you pay for a service just what the market compels, and no more. Salaries and wages in the business world are determined by the law of supply and demand just as are the prices of eggs and coal and other commodities—except where labor unions or trade agreements abrogate that law. Under our economic system it is hard to see how things could be otherwise. We have as yet no accepted means of determining salary and wage scales on a more socially constructive basis. But I make the contention that the competitive determinant should not prevail in educational salary scales, if it is possible to find a better one, because it is not only derogatory to the dignity and value of the teaching service, putting it on the basis of a commodity, but as population increases and social and economic organization become ever tighter and more rigid, it tends to drive salaries down. The law of supply and demand cannot apply to teaching-service salaries without causing a gradual deterioration of that service. An architect or builder can specify exactly what ingredients in what proportions shall go into the making of concrete, but no superintendent of schools can specify with any such precision the ingredients of good teaching. So large a part of such teaching is an act of faith that it cannot be made good merely by prescribing forms and conditions for it. Only the spirit of the teacher herself can make it good; and if that spirit is depressed or flouted by the public disrespect for her job which is implied by competitive salaries and mediocre or poor working conditions, the quality of her work will suffer accordingly. If salaries are lowered, this effect is correspondingly increased. The fact that such a measure of "retrenchment" is sincerely deplored by boards of education who do it does not shift its incidence, nor remove the deteriorating effect on teaching, and is therefore cold comfort to teachers. Neither is the situation much softened by letting the face value of the pay check alone and accomplishing the same result by increasing the teachers' working day and the sizes of classes. Also, this is taking it out of the pupils as well as the teachers.

Shall Supply Control?

Finally, to make even more vivid the inherent social threat of the law of supply and demand as applied to teachers' salaries, let us follow its logic a little farther. Such a law puts every objective to which it is applied on the basis of a commodity. It finds its most effective application in the contract-bidding system. By that system the buyer's desire for saving and

the seller's desire for profit have the field entirely to themselves. Other things being equal—which, unfortunately for the law, they almost never are—the buyer thus gets the most for the least money. Then why not apply the contract-bidding system to teaching? The mechanics of it would be simple. Let boards broadcast the qualifications they require and invite bids of yearly salary for each job, the lowest qualified salary bid taking it. Absurd? Yes, and worse, but why? Because it would soon degrade and destroy the quality of the service.

But if supply and demand should not determine teachers' salaries, what should? What else is there to go by? There are, it seems to me, certain factors of great social significance which, if they can be quantitatively evaluated with approximate accuracy, can determine a just salary. In my opinion these factors are as follows: cost of living, provision for the future, degree of security in tenure, working load, experience, preparation investment, professional study required during service. I do not offer these dogmatically, but by way of suggestion. There are a few others, such as personality, degree of success in work, extraordinary scholastic preparation, degree of recognition in some special field of knowledge, etc., but it seems to me that any attempt to evaluate these in terms of salary would be so controversial as to render them wholly impracticable. The others can, I believe, be fairly evaluated in salary terms, with the possible exception of experience, but that is so important the attempt must be made, and in fact is regularly made in practice now. Of course the law of supply and demand itself cannot and does not entirely ignore these factors, but it attempts to do so by reducing them to their lowest terms. My plea is for a reversal of that process—relegate this so-called "law" to the rear and put these social factors out in front.

Some Better Means of Evaluation

There is not space here for any real analysis of these factors in terms of salary schedules. That would be material for a considerable article in itself. We may, however, briefly indicate the trend which such an evaluation must take. For example, the cost of living must include a great deal more than proper and sufficient food, clothing, and shelter for bodily health. Every community has its level of expectation, which it enforces in various indirect ways, for the scale of living of its residents according to their social status. Such expectation for teachers is fairly high, and the salary schedule must recognize that social pressure. Much the same consideration applies to provision for the future. In evaluating the working load, some ideal standard of class size and length of working day must be accepted, and the salary schedule should allow proportionally for the departure from those standards in practice. It must also allow for the current rate of interest on the teacher's investment in her educational preparation for her job, in addition to the wage for her services. It should also allow for a premium on unemployment insurance if she is elected only from year to year, and also for half the cost to her of additional professional study required of her while she is in service.

4. I would call the attention of superintendents and boards of education to the fact that the whole school trend of society, a trend largely due to the habits of the fathers and mothers who are protesting against taxes, is to impose upon the public schools more and more of the responsibility for the general welfare of childhood and youth. The schools can no longer be regarded as merely vehicles for the dispensing of information and the inculcation of certain skills. Right now one of their greatest

and most important, though never mentioned, functions is to serve as day nurseries in the cities. If the parents did not have their children in school what would they do with them? The mere inert existence of the school plant is a social safeguard. Boys who are regular in school attendance seldom become gangsters. And the schools are more and more depended upon to keep the children in health and to guide and discipline them into the paths of orderly citizenship.

Public Demands of the Day

All of this inevitably means that boards of education will have to carry on all sorts of special activities not contemplated by the traditional notions of education. It means special classes and schools for the physically handicapped, for those obliged to leave school prematurely, for delinquents and incorrigibles, for the public itself. It means tax-supported playgrounds, swimming pools, gymnasiums, and free clinics for pupils. It means more and more attention to the scientific and technical aspects of living and this must be balanced by more and more attention to the fine arts. In short, it means that the public is demanding, more or less gropingly as yet, that the public schools shall render an ever wider and deeper service to the people, by taking as their objective the service to the whole community, adults no less than minors, in learning the difficult art of living a satisfactory life.

It would seem, then, that superintendents, boards of education, and their public might as well make up their minds that schools are going to cost more instead of less, and that not only because of the greater service they offer, but also because of the coming of much needed improvement in the way of less heavily loaded teachers, in order that each pupil may receive at least the permissible minimum of individual attention. And because of all of these things teachers ask boards of education not to adopt that defeatist slogan, "The schools must cost less!" Such an attitude is social backsliding. Rather let them talk publicly about more and better school service to the community, and the chances are that they will find their community following them.

Why Retrench in Salaries Only?

5. Our proposition that when retrenchment becomes unavoidable it should cover all other items of school expenditure before touching salaries would probably meet with pretty general agreement, "if," it would be added "there is any margin for it." Perhaps there are some school systems in which there is little or no such margin, but a little consideration of other than salary expenditures for the nation as a whole will show that there must be such a margin in a great many systems. A board of education buys many things besides the services of an educational staff—light, power, fuel, repairs and replacements, supplies of many kinds, insurance, the services of added capital, amortization of that indebtedness, allowance for depreciation of plant, offices for the board and superintendent, traveling expenses for the superintendent and occasionally for members of the board. These items of cost do not usually get the publicity that is sometimes accorded to salaries. Hence the general lay impression that the great bulk of school expenditure is for teachers' salaries. Incidentally, it would seem logical to suppose this, since the schools avowedly exist for the activities planned and supervised by the teachers. I fancy, however, that that proportion is smaller than is generally supposed. For the school year 1927-28, the last for which we have authoritative figures, the total expenditure in the continental United States for all tax-supported schools below collegiate grade was about \$2,184,000,000, of

which only about 55 per cent went for the combined salaries of teachers, principals, and supervisors, not including superintendents, in which case the proportion for teachers alone could hardly be more than 50 per cent. In that same year, these public schools had a capital indebtedness of \$2,158,000,000, on which they paid an interest bill of approximately \$92,024,000. Also in that year the nation's common schools paid \$52,070,000 to have their buildings lighted, heated, and cleaned. Repairs and replacements consumed about \$72,450,000, while the expenses of the business offices of boards of education amounted to about \$20,464,000.

Teachers Not Overpaid

It would seem, therefore, that there are several sources of large expense available for trimming before salaries need be touched. The interest bill alone, if so applied, would have built nearly 200 first-class grade schools for 1,000 pupils each, or it would have added about \$110 to the salaries of each of the public-school teachers employed that year. For a considerable percentage of those teachers that would have meant a salary increase of from 10 to 20 per cent. Yet, in the majority of cases, salaries are the first thought of boards of education when retrenchment is demanded. Then are teacher's salaries too high now?

For the school year 1927-28 the average of the combined salaries of teachers, principals, and supervisors, again not including superintendents, ranged from \$545 a year in Mississippi, up to \$2,337 in the State of New York. Incidentally, in considering the New York figure, we should remember that it includes the city of New York, whose more than 80,000 teachers, principals, and supervisors receive a much higher average salary than prevails throughout the rest of the state. Besides the State of New York, only California, New Jersey, and the District of Columbia have average teacher-principal-supervisor salaries in the \$2,000 bracket. All of the other states were below this, some of them very much below. For example, in 16 states that average was less than \$1,000 per year, and in 4 of the 16 it was less than \$750. Such figures not only dispose of any suggestion that teachers are overpaid, but also largely explain why only about 16 per cent of them were men.

III

But teachers as a body are not unreasonable. They understand that in the face of economic depression, and wide protest against the cost of government, the position of superintendents and boards of education is difficult in the extreme, believing, as most of these officials do, that a liberal salary level is essential to high-grade teaching service. But this knowledge cannot blind the teachers to the fact that not only their own vital interests, but those of the pupils as well, are closely concerned. When they see the figures on the national income and how a large part of it is spent, when they see that the national wealth is greater than ever before, as are the resources and facilities for creating more, they can hardly be expected to have much patience with the depression argument for reduced salaries.

In conclusion, while it is true that teachers are rapidly coming to realize that the traditional missionary attitude of the public—and to a considerable extent, of school people themselves—toward teaching is destructive of public respect for it as well as for the teachers themselves, while they do believe and declare, on ancient and unimpeachable authority, that "the laborer is worthy of his hire," they still express their idealism in the supplemental declaration that the fruits of this labor must be equally worthy.

A Study of Sanitary Drinking Fountains

Jean Collier Brown, Assistant U. S. Department of Labor

With the passing of the one-room schoolhouse in many sections of the country there has disappeared also the water pail which, when filled from a nearby well and placed in a corner, ministered throughout the day, by means of a common dipper, to the thirst of the teacher and pupils. One indication of the modernization of the consolidated school building of the present day is that new, shiny, and supposedly sanitary bubbling drinking fountains are installed.

What a shock it is, then, to the persons responsible for the installation of bubbling drinking fountains to learn through the medium of a recent study of the Women's Bureau of the United States Department of Labor, that the great majority of such fountains not only are insanitary, but are capable of transmitting any one of at least fifteen specific diseases directly from one person to another!

Further facts, disturbing to school-board members and to other individuals assured of the safety and sanitation of bubbling fountains, are to be found in the bulletin entitled *Sanitary Drinking Facilities with Special Reference to Drinking Fountains*, written by Marie Correll. This report contains a brief analysis of four bacteriological studies of drinking fountains; data compiled from the factory inspections that formed part of several state investigations of the Women's Bureau; summaries of laws and regulations of the various states in regard to drinking facilities, and abstracts of the best available standards for the construction of drinking fountains.

Early Findings

Back in 1914, following an epidemic of streptococcus in a women's dormitory at the University of Wisconsin, studies were made to ascertain the cause of infection. Doubtless there had been similar epidemics in the past, but in this case a professor in the laboratory of medical bacteriology of the University, made a survey of all the fountains to determine the possible source of infection. Accordingly, he, with the help of two student aids, made examinations of the bubbling drinking fountains in the dormitory, and obtained swabbings that showed an almost pure culture of streptococci. Though the city water supply was found to be excellent in its sanitary character it was evident that the water issuing from the fountains in question, contained harmful bacteria. Swabbings obtained from other fountains on the campus showed evidences of streptococci but to a less dangerous degree. "Presumably," concluded the scientist, "the bubble fountains were a factor in transmitting the disease." As a solution to the difficulty inherent in the vertical-jet type of drinking fountain, a fountain constructed with a tube at an angle from the vertical was suggested. The tests made of this type of fountain, i.e., the angle-jet, showed no trace of bacilli even in swabbings made immediately after the introduction of the organisms.

The findings of this study and of other tests of drinking fountains came to the attention of the Women's Bureau early in its history, and since this bureau is charged by Congress with the duty of improving the working conditions of women, it is constantly alert in regard to all matters pertaining to the welfare of these workers. The results of these investigations, therefore, placed additional emphasis on the necessity, already felt by the bureau, of collecting detailed data on the types of drinking fountains used in places of employment. In the state surveys made by the bureau from 1923 to 1929, drinking facilities were reported for

about 1,500 establishments in 21 states. The report shows that while more than 40 per cent of these places had provided fountains for some or all of their employees, less than 15 per cent of these were of the design that prevents infection being transmitted from one person to another.

Importance of Standards

The fact that most bubbling drinking fountains offer possibilities of contamination makes particularly important the problem of securing standards for the construction of sanitary facilities. Fortunately such standards are available. Following the action of the American Water Works Association and the United States Public Health Service, the American Public Health Association has recently adopted detailed standards for a sanitary drinking fountain. The requirements of this association, together with additional recommendations of the Women's Bureau are helpful guides in the selection of drinking fountains. These are as follows:

Recommendations for Drinking-Water Service

Source of water: Should be absolutely pure. Consult local health department. Water not suitable for drinking should be so marked. Should not be in containers, except where local supply is impure and bottled water is used.

Sanitary service: Either A or B, as follows:

A. Bubbling fountains meeting these standards:

1. Fountain should be of impervious material, as vitreous china, porcelain, enameled cast iron, other metals, or stoneware.

2. Jet should issue from nozzle of nonoxidizing, impervious material set at an angle from the vertical. Nozzle and every opening in pipe or conductor leading to nozzle should be above edge of bowl, so that nozzle or opening will not be flooded if the drain from the bowl becomes clogged.

NOTE: It is understood that the angle be such that the water can neither fall back nor be forced back on the point of discharge. The Women's Bureau makes this very emphatic.

3. Nozzle should be protected by nonoxidizing guards, to prevent mouth or nose of drinker from coming in contact with nozzle.

4. Jet of water should not touch guard.

5. Bowl of fountain should be free from corners difficult to clean or collecting dirt.

6. Bowl should be so proportioned as to prevent unnecessary splashing.

7. Drain from fountain should not have direct physical connection to waste pipe unless trapped.

8. Water-supply pipe should have adjustable valve, fitted with loose key or automatic valve, permitting regulation of the rate of flow of water to fountain, so that the valve manipulated by the drinker will merely turn water on and off.

9. Height at drinking level should be convenient to most persons using fountains. Steplike elevations may be provided for children.

10. Waste opening and pipe should be large enough to carry off water promptly. Opening should have strainer.

Use of Cups

B. Individual paper cups furnished free by employer.

Proper use: Hands, mouth, or face should not touch any part of faucet, bubbler head, or guards of fountains. Individual paper cups should be protected from dirt, supply should be adequate, and means of disposal provided.

¹Summarized from *Essential Features in the Design of Sanitary Drinking Fountains*, final report of the joint committee on plumbing of the public health engineering section of the American Public Health Association and the Conference of State Sanitary Engineers, October, 1930. U. S. Public Health Service, Public Health Reports, Vol. 46, No. 4, Jan. 23, 1931, pp. 170-171.

²Under date of February 26, 1931, the United States Treasury Department, in which is the office of the supervising architect, stated that specifications for drinking fountains to be installed by that department in Federal buildings will be in accordance with these standards.

Location: Should be convenient, well lighted, clean.

Temperature: Water should be cool but not iced. If ice is used for cooling, it should not come in direct contact with the water.

Maintenance: Facilities should have frequent cleaning and disinfecting; also repair and adjustment as necessary.

Accumulating evidence shows that the subject of sanitary drinking fountains deserves far greater attention than it has received in the past, and the report is an attempt on the part of the bureau to aid in promoting a nationwide program for more adequate drinking facilities.

SUPERVISION IN CONSOLIDATED SCHOOLS

That superintendents and principals of consolidated rural schools are generally overloaded with administrative work and that for this reason they do not adequately supervise their schools is the observation of Mr. Irving F. Pearson, superintendent of the Winnebago county schools, Rockford, Ill. In a conference of rural-school supervisors, held at Kalamazoo, Mich., at the instance of United States Commissioner Wm. J. Cooper, Mr. Pearson declared that the supervision of the technique of teaching in rural consolidated schools is not as effective as the supervision of school management. Most principals and superintendents have exceedingly brief periods of time for visiting schools and for this reason pay greater attention to the physical conditions of the school and to the management phases than they do to supervision. The daily program, the gradation of pupils, the preparation of school records, and problems of discipline all loom large in the minds of supervisory officers and are given preference in the ordinary visitation.

The actual supervision of teaching is limited to the problems of methods of presentation, the vocabulary of the teacher, the use of illustrations, etc. The more difficult problems of methods for motivating work, inducing self-activity on the part of the pupils, and attention to problems arising from individual differences of children are rarely touched upon. The technique of questioning is generally well understood by supervisors and is carefully and constructively criticized. Tests are usually neglected because of a lack of understanding and because of difficulties due to the lack of time. Lessons are frequently criticized as to length, completeness, and type but not enough help is given to teachers in solving the problems of lesson planning, lesson demonstrations, and the supervision of study. Pupil placement is too often opinionated and rarely scientific. Supervisors rarely attempted to rate teachers, or to make sufficient specific suggestions concerning definite programs of self-improvement.

It is the conclusion of Mr. Pearson that "the teaching, administrative, and community duties of the average consolidated rural-school principal or superintendent, preclude much effective work in supervision, that the tendency is generally to stress administration at the expense of supervision, to fail to use adequately and scientifically modern supervisory methods and adequately to use scientific instruments of measure. Further, release from teaching, administrative and clerical duties, plus a practical knowledge of supervision gained from practical rather than theoretical college and university study in supervision, will overcome at least to a degree the very evident deficiency in supervisory activities engaged in by the average consolidated rural principal or superintendent."

Taking the Guess Out of Grading

Fred C. Ayer, University of Texas, and D. F. Votaw, Southwest Texas State Teachers College

At the close of terms, and at other intervals in schoolwork, teachers are faced by the problem of giving grades to pupils according to achievement. Most thoughtful teachers feel considerable uncertainty about the reliability of the grades they assign and frequently find it difficult to defend their reasons for an individual grade assigned. This is true in elementary school, in high school, and in college despite the widespread use of teacher-made objective tests which provide scores for making the assignment of grades to pupils seemingly automatic. Three devices are suggested in the article to follow for reducing the uncertainty attached to grading.

I. Using Quantitative Marks

All indices of the pupil's achievements in the course which are to influence final grades should be made commensurable by being translated into numerical terms and recorded as such. When an objective test is given, the exact scores made may be recorded in the teacher's class register. When an exercise of the essay type is required of the pupils, the papers should be grouped into five or more rank-groups and each paper given a numerical score which its rank-group justifies. For example: 14, 12, 10, 8, 6. If pupils' class responses are to affect final grades, some system should be devised for tabulating each correct response on the pupil's class cards. The totals of the tabulation for a given period may then be transferred to the teacher's class register and treated as a score on that phase of the course. By such means it is possible for all forms of pupil achievement such as term papers, laboratory work, and special reports to be translated into numerical terms.

II. Assigning Appropriate Weights to Different Types of Work

A system of relative weighting should be applied to the several types of pupil achievement which enter into the course grades. Equitable weighting depends upon the accuracy of the teacher's judgment of the relative importance of the tests, papers, and other kinds of work required in the course. This weighting may be improved by consultation with other teachers and the supervisory or administrative officers. Pupils should be informed definitely concerning the weights given to different types of work. Pupils are frequently inclined to overweight papers or tests on which they have received high grades. Instead of, or in addition to, marking ordinary test papers with letter

grades, A, B, C, D, and F, the teacher should hand the paper to the pupil with a numerical score marked on it which is indicative of its final value. In addition, he should place on the board, where all may see, a complete distribution of all scores made on the test something as follows:

Pupil A receives a paper with a score of 14. In addition he sees on the board the distribution of all scores in the following arrangement:

Scales of Scores	Frequency
25 to 29	3
20 to 24	7
15 to 19	9
10 to 14	4
5 to 9	2
Total	25
Median score	18.11

With this information pupil A's score of 14 becomes very significant to him. He knows that he is about four points below the average, that 19 pupils made better scores than he, that only 2 pupils made scores below the group of four in which he is located, and that he has accumulated 14 points toward his ultimate term grade.

If the instructor decides that this test should have more weight than the median score indicates, he should multiply each pupil's score by some constant, (1.5, 2, 2.5, etc.) to give it proper weight before recording in his class register. Conversely, of course, weight could be decreased by dividing the score of each pupil by some constant.

The writers wish to make it clear that they do not advocate the arbitrary assignment of any predetermined percentage of A's, B's, C's, D's, and F's to a class in order to produce a normal frequency distribution of grades. It is a fact, however, that when grades in large classes are equitably assigned on the basis of scientifically measured achievement, they will most likely be found distributed in approximate conformity to the normal frequency curve. It is possible that a given class may contain no F's or it is possible that a class may contain no A's. Either of these conditions is rare.

The method of assigning grades for a period or term is summarized in Table I. These records were not improvised for the purposes of this article, but were taken from an actual classbook record. The twelve items rated in Table I are as follows: (1) Construction of chart from data in text; (2) Paper prepared outside of class recitation; (3) Objective test (multiple-choice type); (4) Paper outline pre-

pared in class hour; (5) Test (essay type) ranked in five groups; (6) Class responses (complete discussions); (7) Objective test (completion type); (8) Objective test (yes-no type); (9) Test (simple-recall type); (10) Totals; (11) Term grades by empirical method; (12) Term grades by exact method.

TABLE I. Term Grades of Thirty Pupils Based Upon Nine Different Factors

Name of Pupil	1	2	3	4	5	6	7	8	9	10	11	12
H. B.	2	2	17	10	4	7	10	8	8	68	D	D
H. R. B.	4	2	18	10	8	5	40	8	14	109	A	A
V. B.	3	4	17	10	10	4	20	8	10	86	C	C
E. B.	0	2	9	8	4	5	18	6	8	60	D	D
S. B.	5	2	22	14	10	6	24	10	14	107	A	A
S. S. C.	0	0	24	12	8	5	18	4	12	83	C	C
A. L. D.	3	4	20	12	10	1	22	2	10	84	C	C
O. D.	5	0	22	12	6	3	26	8	10	92	B	B
L. E.	0	0	20	8	8	4	34	2	10	86	C	C
A. F.	2	3	21	10	8	4	24	6	10	88	C	B
R. E. F.	1	2	16	8	8	4	10	10	12	71	D	C
V. G.	2	3	21	10	6	8	16	6	10	82	C	C
E. H.	1	3	15	8	4	3	32	2	10	78	C	C
S. T. H.	2	3	18	10	6	7	22	10	12	90	B	B
J. J.	5	4	21	14	8	5	14	4	12	87	C	B
G. K.	2	3	16	10	4	3	18	10	12	78	C	C
A. E. K.	5	3	18	10	0	2	8	8	8	62	D	D
L. F. D.	2	3	15	8	6	4	36	10	12	96	B	B
E. P.	2	2	16	8	6	5	0	8	8	55	F	D
P. S.	3	3	15	10	6	3	36	8	12	96	B	B
E. E. S.	2	2	14	8	4	1	8	4	6	49	F	F
O. S.	3	3	21	12	6	5	8	6	10	74	C	C
E. S.	2	2	13	6	6	4	8	8	8	57	D	D
R. S.	5	2	16	10	4	4	24	4	10	79	C	C
M. W.	0	2	13	6	8	6	10	2	10	57	D	D
A. W.	2	2	22	10	4	4	24	8	10	86	C	C
E. W.	2	3	14	8	10	3	20	2	8	70	D	D
J. W.	2	3	22	12	8	3	24	8	14	96	B	B
V. W.	2	2	19	10	6	4	8	8	12	71	D	C
C. Y.	0	2	11	10	3	4	6	8	10	54	F	F

The figures in column 3 Table I represent only one half of the original scores, the teacher having regarded the original scores as too large to represent properly the weight of the material covered by the test.

III. Assigning Qualitative Marks by Quantitative Methods

If it seems desirable to use qualitative grades such as A, B, C, D, and F, they should be assigned on the basis of quantitative computation. Two methods of converting the totals under column 10 into five grade-groups are here given:

(a) *Empirical method.* No knowledge of statistical operations is required in the use of the empirical method. First, the 30 scores should be rearranged in order of descending values. This can be accomplished best by writing the totals on separate cards and shifting the cards to the new order. The scores arranged in descending values are 109, 107, 96, 96, 96, 92, 90, 88, 87, 86, 86, 86, 84, 83, 82, 79, 78, 78, 74, 71, 71, 70, 68, 62, 60, 57, 57, 55, 54, 49. The mid-score should now be found. In this case, there being an even number of scores, it lies halfway between the fifteenth and sixteenth scores, 79 and 82, and hence is 80.5.

The next step is to count off approximately 17 per cent of the number of scores (17 per cent of 30 is 5, approximately) from each end of the scale of scores. The highest and lowest scores remaining are 92 and 60. Half the difference between these two scores (16) is the grade-segment. This grade-segment is to be applied to the scale of scores so that its center will rest on the mid-score, 80.5. It will then cover the "C" group. The limits of this group, therefore, are 88.5 and 72.5. When the grade-segment is added to the upper limit of the "C" group (88.5 plus 16), the upper limit of the "B" group is found to be 104.5. Similarly, when the grade-segment is subtracted from the lower limit of the "C" group (72.5 minus 16), the lower limit of the "D" group is found to be 56.6.

(Continued on Page 90)



SCHOOLS PROTECT CHILDREN'S HEALTH, ESPECIALLY IN TIMES OF EPIDEMIC
PHYSICIAN AT WEEHAWKEN, NEW JERSEY, EXAMINING CHILDREN
OF WEEHAWKEN SCHOOLS

Cutting Down the Fire Hazard

Russell S. Peterson

The time to fight a school fire is before the fire starts. This is, of course, true of all fires. Almost without exception, they are small to begin with and easily preventable with the exercise of a little care and intelligence.

After fire breaks out, however, we face a different situation. Then even most adults are prone to lose their heads and become panic-stricken. In a school building filled with young children, easily excitable and lacking in self-control, the danger becomes such that every fire is potentially a major disaster.

Frequent and thorough inspection of the school plant with regard to fire hazard and fire protection is a job which the school head must do often and thoroughly. When the lives of children are the stake, he cannot afford to gamble on the possibility of fire breaking out; he dare not assume that his school plant is safe from fire.

Good Housekeeping and Fire Safety

First of all, he had better look carefully to his housekeeping. Disorder, litter, and an accumulation of rubbish constitute one of the most serious of fire hazards. Obsolete maps, broken furniture, and worn-out shades that will never be used should not be allowed to pile up in the school attic, basement, and storerooms. They might just as well be disposed of in the first place as ten years later. All too often this worthless litter is piled away in the worst of all possible places for it, a dark cubby-hole under the stairs. Be desperately hard up for storage space before you use room under the stairs, and if you must store anything there, be sure that it is something that could not possibly burn.

Oily rags and oil-soaked mops are dangerous, because of the fact that they are subject to spontaneous combustion. You know this, of course; but be sure that your janitor knows it, too, and that he governs himself accordingly. There should be a place for everything and everything in its place in all parts of the school building, but nowhere is this more important than in the janitor's room. The place for anything that is oil-soaked is in a closed metal container, preferably one with a self-closing lid.

Metal lockers in the janitor's room and storerooms are preferable to wooden cupboards. All cupboards must be kept clean and free from oil-soaked overalls, waste, and matches. If the janitor smokes, educate him to see that his pipe is entirely extinguished before he puts it away upon entering the building. A hot pipe in a coat pocket has started a fire in more than one closet.

Waste paper and sweepings should be placed in covered metal barrels or bins, and these should be emptied daily. Waste paper may be baled but otherwise it should be burned up without delay.

Safeguard the Heating Plant

Everything connected with the heating plant requires careful inspection. Every portion of it must be kept in thorough repair at all times. The smoke pipe must be free from rust holes, must be clean at all times, and all joints in it must be tight. The ash-handling system also requires careful scrutiny. Ashes should be kept in metal containers, and must be emptied daily. Even though they are cold they should never be kept near inflammable materials.

In older buildings, construction is often such that there is serious danger from fire. Because a dangerous condition has existed for years without causing a fire is not any indication that it will not start a fire today or tomorrow. Often these old buildings have wood directly over the boiler or the smoke pipe where a small expenditure for metal lath and plaster could make them comparatively safe. In others, we occasionally

find steam pipes dangerously near the woodwork. Such steam pipes may heat the wood until it begins to char. Charred wood absorbs oxygen until it becomes hot enough to burst into flame. Care must also be taken that other combustible materials are not allowed to rest on or against steam pipes and radiators. Remember that the terrible Collinwood school fire was laid to a steam pipe passing through a closet under the stairs.

The manual-training room is another danger spot that requires constant vigilance. The floor must be kept free from shavings. Paints, varnishes, finishing rags, and other combustible materials must be kept in metal containers. Attention must also be paid to motors and other machines from which oil is likely to drip. Such drippings should never be caught in sawdust or shavings. The safe way is to have metal drip pans filled with sand, that are emptied frequently.

Electric Dangers

And how about the electric wiring and electrical equipment? One of the chief hazards here is that of a short circuit, a consequent overload on the wire, and enough heat thus produced to start a fire. The electric fuses act as safety valves to prevent that sort of thing, but I have seen people with as much intelligence as the average school janitor fill fuse holders with fuses larger than they were supposed to carry. When no fuses were convenient, I have even known some men to plug the fuse holder with pennies and other pieces of nonfusible metal. Look carefully to the electric panel boards then, and see that all fuse holders are filled only with regulation fuses of the size that they are designed to carry.

Electric cords are often hung over nails, are twisted, knotted, and otherwise abused. If electric cords are in contact with metal, and the insulation becomes dried out or worn off, there is a strong possibility of a fire resulting. Electric lamps generate so much heat that nothing combustible must ever come in contact with them. Often, in connection with special-day celebrations and class parties, electric lamps are covered with colored-paper shades. There is only one safe policy, and that is never to allow any but incombustible shades.

Inspections and Drills

Frequent and thorough inspection can lessen the possibility of fire breaking out in the school building, but no amount of inspection can make a fire impossible even in a fireproof building. For that reason no duty devolves upon the school administrator more important than that of providing for a quick and efficient way of getting the children out of the building in case of fire. Of course, practically all schools have fire drills. The trouble is that the fire drill is not of much value, unless it has been planned carefully with regard to the particular fire hazards and construction of the individual building. A very satisfactory drill in one building might be fatal in another building where conditions are different.

That a certain form of fire drill has been used in a building for years does not mean that it is all right — neither does it mean that it is all wrong. Perhaps it has stood the test of years, because it is the drill best adapted to the building. Then again, there is a chance that it has not been changed, because no one has taken the time to find a better way to empty the building than that handed down to him from his predecessor. At any rate, the school head will want to subject his fire-drill procedure to careful study and analysis.

Using Stairs and Exits

There are exits and exits, and stairways and stairways, and the superintendent will want to be reasonably sure that every child in his school system is using in the fire drill that means of egress that will be most likely to yield him a safe means of exit in case of actual fire. The nearest stairway is not always the best one to use. One two-story school building of my acquaintance has two stairways. One is wooden and directly over the boiler room, the other is fireproof and at the opposite end of the building from the boiler, service, and manual-training rooms. Manifestly, the second is a much more reliable means of getting the children out of the building than the first. The head of the building will have to study the means of exit, make sure that there is not a door in the building that does not open outward at the touch of the youngest kindergartner, and plan his fire drill so as to make the most use of the safest stairways and exits.

The signal for the fire drill must be audible throughout the building, clear and unmistakable. It must never be used for any other purpose. Perfect control and discipline are more vital than speed, so all children must walk out in a quiet, orderly manner when the signal is given. There must not be any break or any running anywhere in the building or outside. Each room must have a definite station outside at a safe distance from the building and so situated that the children will not be in the way of the fire apparatus when it arrives. There must be a definite understanding that no one reenters the building except at the principal's signal, and that no child leaves the station assigned to his room without his teacher's permission. It is also essential that provision be made for inspection of every room in the building to make sure that everyone is out.

Cold Weather Drills?

Since time cannot be taken to allow children to put on their wraps, it is not advisable to have fire drills in such severe weather that children will suffer from exposure to the cold. This can be avoided by having frequent fire drills on pleasant autumn days. If the children are thus trained in the fall, very few drills will be necessary in the winter. Occasionally during the winter it may be advisable to have a fire drill at the regular dismissal time when all the children have their coats and caps on.

The school administrator must also see that effective provision is made for extinguishing fire. The surest means of extinguishing fires is, of course, an automatic sprinkler system. The cost of such a system is so high, however, that very few school boards have been able to install automatic sprinklers in their buildings.

Where school buildings are equipped with standpipe and hose, it is necessary to see that the hose and nozzle are connected up, that the petcock or drip is open so as to keep the hose dry in case the valve does not shut off tightly, and that access to the hose is never blocked with furniture or other obstructions. It is also well to make sure that the janitor or engineer knows how to operate the hose.

Fire Extinguishers

Buildings that are not equipped with automatic sprinkler protection, or standpipe and hose, should have at least one 2½-gallon soda-acid extinguisher for each 2,500 square feet of floor space. If smaller, 1½-gallon extinguishers are used, there should be about one to every 1,000 square feet of floor space. These extin-

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Epidemics and the Schools

W. W. Bauer, M.D., Commissioner of Health, Racine Wisconsin

There is a question which comes up, and will continue to come up before school boards, whenever epidemic disease becomes prevalent in a school district. That question is, whether or not to close the schools to aid in the control of communicable disease.

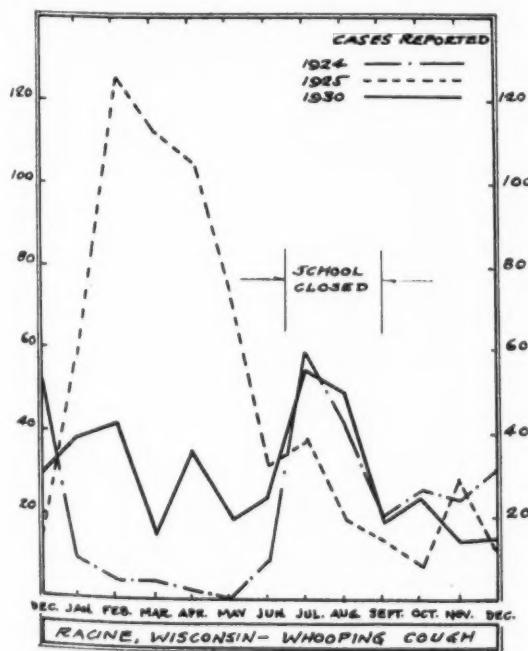
There is a feeling in the minds of many people that the schools ought to be closed during epidemics. This grows out of the ancient practice of defending oneself against threats of pestilence by running away, or as was done by the revelers in Poe's "Masque of the Red Death," by shutting oneself up in an impregnable fastness or fortress of some sort, there to await subsidence of the storm. It is a dependence, in one form or another, upon physical isolation. It is a reaction compounded of ignorance and primitive fear. Out of this grows the popular demand that schools be closed in the presence of epidemics. Since school boards are the elected representatives of the people, sharing their views and opinions, it is but natural that the public demand meets response in the form of action, and schools are closed.

A study of the effect upon epidemics, of closing the schools, has convinced me that there are two sets of circumstances under which the closing of schools may take place, which differ widely one from another. Let us see briefly what happens in each set of circumstances when the schools are closed.

Let us examine first the conditions in a given fictitious city or county, of which you can easily find the counterpart in almost every locality. Whether this is a large or a small community matters little. The one salient feature of the circumstances to which I now refer is the existence in that city or county of a well-organized public-health service. Whether this is administered by a health board or department or by the board of education is beside the point here. What matters is that there shall be public health nurses in the schools, with principals and teachers coöperating in observation of the pupils. Such conditions constitute an excellent reason why the schools should not be closed during epidemic times. There are many explanations for this, of which some of the most important are here set forth.

What Closing Does

Before going further, let us visualize what happens when the schools are closed, and large



This graph shows the variation of whooping cough with no apparent relationship to opening or closing of schools. Note the 1924 and 1930 summer peaks while the schools were closed, and the 1925 peak which began to decline while the schools were still in session.



TAKING TEMPERATURES OF CHILDREN IN A SCHOOLROOM WHERE SCARLET FEVER HAS OCCURRED. PLENTY OF THERMOMETERS AND A CONVENIENT RACK SUCH AS HOSPITALS USE, MAKES A SHORT JOB OF EACH CLASSROOM

numbers of children are set free to do as they please. First of all, of course they play among themselves in their neighborhoods to a greater extent than they would if attending classes. But they do not always stay in their own neighborhoods. They wander afar, mingling with children with whom they might never have come in contact if school had been in session. Moreover, these casual associations are not only unsupervised, but practically untraceable if it should later become desirable to know what possible exposure a child might have had.

Not only do children released from school wander along on their own account, but the absence of the school obligation, which may have tied a mother to home over a lengthy period, frequently spells opportunity for that mother to get away and do errands or make visits which she has been wanting to accomplish for a long time. So she dresses up the children and away they go, shopping in the big stores, riding on public conveyances with other families in like situation, visiting friends in remote parts of the city who may also have children, thus spreading or acquiring, as the case may be, infection which they might otherwise have kept to themselves or from themselves.

I recall very well one epidemic of measles which I watched from week to week, keeping a spot map of its progress as it increased up to a certain point, then waned. It began in a region of the city where people of a certain national group were concentrated. Its next appearance was in another group of the same national origin in a distant part of the city, and that appearance was timed just about two weeks after the spring vacation. The time which must elapse between exposure to measles and development of the symptoms is two weeks. How easy to picture the exchange of visits between friends or perhaps relatives, living far apart, when school vacation offered the long-awaited opportunity. A little investigation revealed that just exactly that was what happened.

Instances like the above are multiplied in the daily experience of the health department. Just the other day two cases of scarlet fever were reported, which came to my particular attention because one happened to be the son of some very close friends. He had apparently been exposed to a chum of the same age, in the same school grade. Superficially it appears that the contact was probably made in school. The truth is that they are in the same grade, but one attends the public schools and the other a denominational school. Their contact was made at play, not in school. What good would closing the schools have done in protecting the second boy from exposure to the first? Would not, indeed, closing the schools have increased the likelihood of just such contacts?

Finding Cases in School

There is another factor operative where well-organized school health supervision exists, and that is the opportunity offered by the school for the finding of cases of contagious diseases which would otherwise have escaped discovery. In one epidemic, which I had opportunity to observe through my connection at that time with the Milwaukee Health Department, a study was made to ascertain just what proportion of cases known and under quarantine were discovered in this way. We found that 22 per cent of the cases in that outbreak would probably never have been brought to the attention of the health department except through the school health service. This is a proportion that health authorities cannot afford to overlook, for while their absence from the record would have made the epidemic appear smaller than it was, it would have been a false appearance, and would have seriously interfered with measures for control. From the standpoint of the schools, such a large group of unrecorded and unsupervised cases in a community obviously constitutes a serious threat to the health of the children.

It would appear from the above that where a well-organized school health service exists, it is unwise and unnecessary to close the schools, and that the best interests of the children and the community will be served by keeping them open and making them an instrument for the control of the epidemic. This is entirely aside from the question of waste of school funds involved in needlessly paralyzing the system.

At this point it may be well to take notice of the all-too-common belief that the schools are the principal cause of the spread of disease. That they are one factor cannot be denied, and they may be a large factor if their health service is inadequate. But they are not the whole story. One hears on every hand the specious argument, based upon the fallacy that events closely following one another must of necessity be related as cause and effect, that as soon as the schools open, epidemics start. That is a statement which falls before the facts. I have traced the start of a number of epidemics, and find that even for the winter diseases—such as scarlet fever, diphtheria, chicken pox, and mumps—the increase which gradually progresses to epidemic proportions may and often does begin before the schools are opened, and does not always speed up appreciably with the beginning of the school year. I have records of an outbreak of whooping cough which maintained a high level for two years, with no relation whatever to the opening and closing of the schools. Surely that could not have been laid at the door of the schools. Moreover, there are epidemic diseases which are characterized by their appearance during seasons when there is no school, as, for example, whooping cough, which commonly is more prevalent in the summer than during the school year. And measles, one of the most contagious of them all, starts up as an epidemic as often in April as it does in September. Again we must hold the schools no more at fault than a dozen other influences which may be at work.

Schools Not Primary Factors in Disease

Schools are not the primary factor in the spread of epidemics. It is the increasing congestion of our modern economic and social life that is responsible. Why blame the schools for spreading contagion, when children are making contact with one another in neighborhood play, in street cars, in crowded stores, at children's parties, in the movies, in innumerable places where they gather during the hours when they are not in school. If the school is to be blamed for spreading epidemics, then I want someone to explain to me how contagious diseases get into families in which the oldest child has not yet started school!

Among all the opportunities for contagious disease dissemination, contact in the schools is probably the least important, because of the supervision under which the children in school are constantly found, especially where nurses are at the beck and call of the teachers. Therefore, health workers are opposed to closing the schools where there is organized health service. They do not want to lose the opportunity of controlling the epidemic through the exercise of certain precautions, the most important of which may briefly be mentioned here.

There are always children absent from school. The reasons for absence may be almost anything under the sun from having to mind the baby while mother goes to a bridge party, to such significant causes as epidemic disease. Short absences are not the concern of the attendance officer, unless, of course, the family involved is a chronic offender and therefore automatically under suspicion. But short absences may be of enormous significance in connection with existing or threatened epidemic conditions. A mild case of scarlet fever may occur, and the child may stay out of school only three days, but remain capable of spreading infection for several

weeks thereafter. Therefore health departments have adopted the habit of calling at the homes of absent children after a given period—three days is commonly adopted, though the shorter the period the more effective the measure—to see why they are absent. This is not in substitution for the attendance officer, but to discover cases of contagious diseases which might otherwise escape supervision. It works, too. If the schools were closed, that would obviously be impossible.

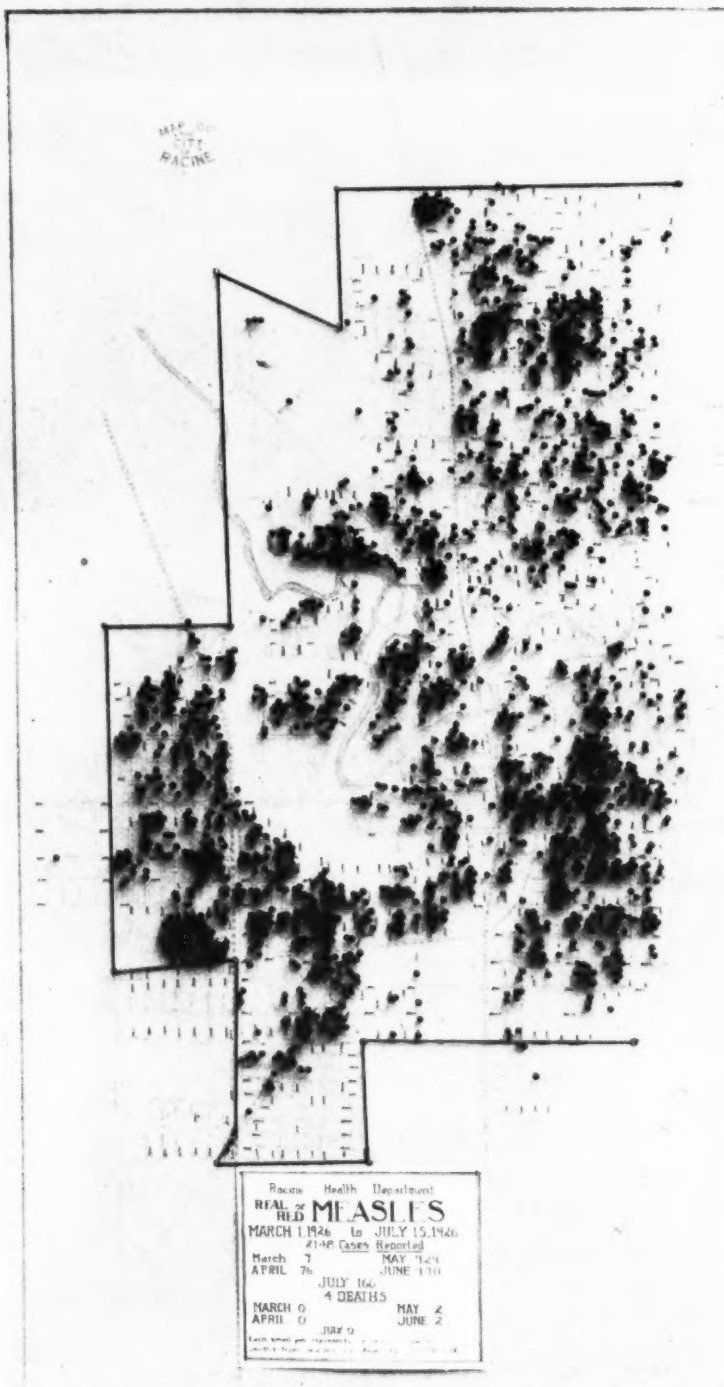
Ordinary Daily Precautions

School nurses are watchful in the school, too. Slight evidences of illness are cause for exclusion, with investigation following to determine whether the condition is contagious or not. Note the order of procedure here; the precaution is taken first and the questions are asked afterward. It may result in a few exclusions that prove needless, but it saves a lot of long quarantines, and thus protects the attendance record as well as the children. These cases, too, would be free to go wherever they chose and expose whomsoever they might meet, if the schools were closed.

Another precaution which may be taken in the schoolroom is the daily taking of tempera-

tures of the children when exposure has occurred to a contagious disease. At the discovery of a fever in excess of 99° the child is sent home. This, too, results sometimes in false exclusions, but a dozen of these are worth while when you find one case such as we found here a month or two ago, when we excluded a little girl because of fever, and found her about thirty hours later in the full flush of a scarlet-fever rash.

It is neither expensive nor difficult to take temperatures in the classroom. All that is required is a dozen or more one-minute clinical thermometers so that too much time is not consumed, a glass of soapy water, a glass of alcohol, and a glass of clean water with plenty of cotton. If the nurse is too busy, the teacher can learn to take the temperatures. A thermometer is placed in the mouth of each child until all the thermometers are in use. By the time the last one has been placed, the first one is almost ready to read. When a thermometer has been read, the temperature is recorded if over 99°, otherwise no record is necessary. The thermometer is then cleaned with a pledget of cotton wet with soapy water, wiped with cotton moistened in the clean water, and last wiped with alcohol. Then it is used again. Care is to be taken to see that ther-



SPOT MAP SHOWING DISTRIBUTION OF MEASLES CASES JULY, 1925, TO MAY, 1926

ometers are thoroughly cleansed, otherwise they may be the instruments of infection, and what was intended as a precaution may prove worse than useless.

The Suspicious Case

Exclusion of suspicious cases is another important service which is possible where public health nurses are working in the schools. Children with trifling illnesses which do not appear to be contagious, sometimes escape diagnosis even under the most skillful medical care, while many are unrecognized because no doctor has been consulted. These may return to school while still capable of spreading infection. Depending upon the particular disease in question, there are a number of ways in which these children can be detected. If they have had scarlet fever they are likely to have peeling hands; if diphtheria is suspected, the throat culture will settle it. If they are not in school, the routine inspection is impossible, and valuable knowledge is lost.

Finally, there are a few diseases which can be stopped short by immunizing methods. It happens that these are most prevalent in the rural areas, just where closing of the schools is most prevalent. Notable among these diseases are typhoid fever and smallpox. If the schools are kept open, entire groups can be protected easily and economically and the epidemic will stop short. If the schools are closed, difficulties increase enormously.

When there is no health service in the schools, an entirely different aspect is given to the whole question of closing or not closing the schools in times of epidemic disease. Such conditions will be found in the smaller cities, villages, and rural school districts. There may even be a county nurse on the job, but she will probably have from fifty schools up to supervise, and will consequently have to spread her services out so thin that one might as well consider that she is not

available, for service to the schools, so far as epidemic control is concerned.

What Teachers Can Do

Under these circumstances there can be no daily supervision other than that given by the teacher. Teachers should not be asked to take responsibility for health work, since they are not trained to discharge it. It would seem then at first glance that here is the proper place to resort to closing of schools. Let us see what would happen. Would not precisely the same thing occur which has been described in the foregoing—the children scattering without supervision to all parts of the community and neighboring communities? There would be only two ways to make school closing effective under these conditions.

The first would be to close up everything else as well as the schools—movies, churches, stores—and to stop all transportation both local and interurban—street cars, busses, trains—in order that crowds cannot possibly gather. Imagine the effect of doing a thing like that if it were possible to do it, which, of course, it is not. And yet inescapable logic leads us to the conclusion that if we close the schools we should do likewise with the other opportunities for children to mingle in crowds. Of course, such a procedure is impossible as well as unjustifiable in the face of our modern organization of life, to which communication is vital.

The other alternative would be to close the schools and have every child kept strictly at home for a period of time sufficient to control the epidemic outbreak. This seems at first glance to be more practicable, but many difficulties are discernible when we examine it more closely. It would depend upon coöperation of parents, for one thing. But most of all, it would require much administrative supervision, and, of course, we are assuming that in these circumstances we have no such thing, unless the school board itself

would undertake to appeal to its people for a trial of such a method of attack upon the epidemic. Except in communities of unusually well-educated people to whom such a program could be explained, it would be doomed to failure from the beginning, and even where people could be made to understand, there would almost inevitably be enough noncoöperators to spoil everything.

It seems then, that even where there is no organized health supervision exercising its protective function over the schools and using them as instruments for the control of the outbreak, the closing of schools is ineffective by itself. It does not favorably modify the course of the epidemic, even though it may seem to do so, for it acts only by concealing cases or making their willful concealment easier. It may thus cause smaller numbers of cases to be recorded, creating a spurious appearance of success, introducing a false sense of security into the minds of people, even while under the surface the epidemic may actually be gaining ground instead of being under control as appearances would indicate.

If there is any possibility of getting the services of a public health nurse during contagious-disease outbreaks, that is the thing to do. If the local health officer is not a physician, which in rural regions is often the case, he can always get advice from the state board of health as to what had best be done, and perhaps a doctor might even be sent to supervise the work of the nurse and advise her. She will then be able to discover cases, inspect the school children and take their temperatures, follow the absentees home and find out whether they are sick or not, exclude suspicious cases from school, teach parents to prevent the spread of disease in the home from child to child, and bring the whole situation under control much faster and with fewer casualties than will any drastic and ineffective measure such as closing the schools.

Bonding Versus Pay-As-You-Go—II

Don L. Essex, Assistant, School Buildings and Grounds Division, State Education Department, Albany, N. Y.

A Suggested Policy

In the preceding article it was shown that neither bonding nor pay-as-you-go is a satisfactory method of financing school buildings under all circumstances. It is evident that a flexible policy is needed, one that permits the use of each plan only under auspicious conditions, and that eliminates the abuses frequently attendant upon the operation of each plan. The writer believes that *paying for each building before the next one is constructed* achieves these effects in a large measure.

Paying for Each Building Before the Next One is Constructed

Consider, first, the small community supporting but one building, where replacement provides the only reason for constructing a new building. Assume, as before, that the life of a building is fifty years. Obviously, in a community of this type, buildings will be constructed less often than in any other type of community. Here what one may call the minimum frequency of building prevails. One building provides for all the educational needs of the community. The building is used until the combined effects of obsolescence and depreciation necessitate a new building—an assumed period of fifty years. A new building is then constructed, which in turn lasts fifty years. Theoretically, this procedure is repeated generation after generation. It is evident that in a community of this type paying for each build-

ing before the next one is constructed is simply the bonding plan, with the bond term equal to the life of the building.

Now consider a somewhat larger community in which not only obsolescence and depreciation but also an increasing school population contributes to the necessity for constructing new buildings. Then consider a community still larger, then one larger yet, and so on. School buildings will be constructed at, say, forty-year intervals, then thirty, twenty, and so on. In these instances, paying for each building before the next one is constructed means the issuing of bonds for forty years, then thirty, twenty, and so forth. In other words, the proposed policy regulates the bond term. As building becomes more frequent, the bond term becomes correspondingly shorter.

Finally, consider a large community in which the frequency of building has reached the point where schoolhouses are built annually or nearly so. Expenditures for buildings must accordingly be made each year. In an instance of this kind, paying for each building before the next one is constructed evolves into the pay-as-you-go plan.

In summary, it can be said that in communities where the minimum frequency of building prevails the proposed policy permits a bond term equal to the life of the building; as the frequency of building increases the proposed policy provides for a corresponding shortening of the bond term; and, finally, as building becomes annually recurrent, or nearly

so, the policy evolves into the pay-as-you-go plan.

Types of Buildings Considered

Another phase of the operation of the proposed policy must be considered. School buildings are not all of the same type by any means. The majority will be constructed to house elementary-school pupils. A smaller number will provide for junior-high-school pupils, and a still smaller number will provide for senior-high-school pupils. Gymnasiums and stadiums must also be included. These various types vary greatly in the cost of construction.

The suggested policy must take into account these differences among types of buildings. Paying for each building before the next one is constructed means that each elementary-school building is to be paid for before the next elementary-school building is constructed; that each junior-high-school building is to be paid for before the next junior-high-school building is constructed; and so on.

Tax and Borrow

In many communities it is necessary to construct elementary buildings annually, but to build junior-high-school buildings, say, every five years; senior-high-school buildings every ten years; and gymnasiums and stadiums every twenty years.¹ According to the proposed policy the elementary buildings will be financed

¹This illustration is oversimplified for the sake of clarity. Buildings are not constructed with such nice regularity.

directly from taxes, the junior-high-school buildings by five-year bonds, the senior-high-school buildings by ten-year bonds, and the gymnasiums and stadiums by twenty-year bonds.

This combining of loans and taxes is sometimes called the "tax-and-borrow" method. Of the use of this method Buck² writes:

Studensky³ writes similarly:

By limiting the use of the pay-as-you-go plan to communities in which building is annually recurrent or nearly so, the suggested policy makes certain that the taxpayers of the present will not bear an undue burden. And while the policy does not entirely eliminate the overlapping of bond issues, it is a long step in that direction, and consequently tends to prevent the future taxpayer from being overburdened.

The Maximum Bond Term

Another matter deserves further comment. It was shown that in the smaller communities paying for each building before the next one is constructed becomes the bonding method. That is, since in many instances no other building will be constructed in the meantime, it permits bonds to be issued for terms equal to the life of a building, or fifty years. Theoretically, this is sound practice. Practically, it is not. There are two practical reasons operating against such a long term. In the first place, no one can predict that the community will need to construct but the one building in fifty years. In the second place, it cannot be guaranteed that the useful life of a building will be fifty years. Obsolescence and depreciation are too uncertain in their effect to warrant such a long view on the life of a building. For these reasons, bond terms should ordinarily not exceed twenty years.

Difficulties of the Practical Application of the Policy

So far the discussion has been entirely theoretical. For the sake of demonstration, illustrations have been extremely simple. It has been necessary to disregard the building history of the community, to assume that the superintendent can start with a "clean slate," that is, to assume that the school-building needs of the community have been adequately cared for in the past and that buildings can be constructed with a delightful regularity. In most communities such a situation does not exist. As Engelhardt and Engelhardt⁴ say:

A brief study of the reports of school surveys that have been concerned with building programs demonstrates the difficulties under which the superintendent frequently labors in his attempt to outline a sound building program. For example, in the report of the Chattanooga, Tennessee, survey⁵ the following improvements

²Buck, A. E. *Municipal Finance*. The Macmillan Co., New York, 1926, p. 473.

"The best plan for a city which desires to obviate a bonded debt and at the same time a fluctuating tax rate is to finance necessary public improvements only when, and to the extent that the cost of such improvements for a given year, in spite of careful planning, are greater than the average for the years immediately preceding or following it."

³Studensky, Paul. Quoted by Henry A. Allen. "Results Accomplished Through the Pay-as-You-Go Policy as Practiced by the City of Worcester, Mass." *The Comptroller*, Nov. 1927, p. 7.

"When the process of permanent improvement is continuous but not steady, as is usually the case with the community or state which has reached mature development, a certain amount of improvement being performed each year, but that amount being especially large at times, a combination of the pay-as-you-go and borrowing is most appropriate, by which the normal proportions of improvements would be paid out currently and the abnormal or peak parts by the issuance of bonds."

⁴Engelhardt, N. L. and Engelhardt, Fred. *Planning School Building Programs*, Bureau of Publications, Teachers College, Columbia University, New York City, 1930, p. 450.

"The public schools are a growing concern, and the superintendent is confronted with a financial situation created through past aspirations, the outcome of little or no planning. His financial program for the future must, therefore, take into consideration whatever conditions happen to exist. Local attitudes and conditions, likewise, are controlling factors which may necessitate the modification of a more or less sound program. Recognizing fully the limitations which a practical situation always prescribes, the plan which can stand critical economic analysis should be the one formulated. Adjustments can then be made as the pressure of circumstances may require."



DR. FRANCIS L. BAILEY
Commissioner of Education,
Montpelier, Vermont

Dr. Bailey, who is a native of Michigan, is a graduate of the Central State Normal School, Mt. Pleasant, the University of Chicago, and holds degrees given by the University of Michigan. He has filled principalships at Belding and Harbor Springs, Michigan, and has also taught in the schools of Winnetka, Illinois.

are recommended for the years 1929-32: The purchase of two junior-senior-high-school and one elementary-school sites; the construction of two junior-high-school and three elementary-school buildings; the construction of additions to one senior-high-school and two elementary-school buildings; all existing school sites to be put into better condition for use of the children.

Here was a situation that the school officials could not modify. The building needs of the community were imperative. To pay for each building before the next one is completed would mean the postponement of much of the program. The situation described above is not unusual. It can be duplicated in survey after survey.

The financial condition of the community may also be an obstacle to the operation of the proposed policy. If the taxpayers are already carrying a heavy tax burden, the superintendent may be obliged to issue bonds of comparatively long terms at the time that the operation of the proposed policy would call for short term bonds, or the use of the pay-as-you-go plan.

However, the fact that it is impossible in many instances to make a practical application of the proposed policy does not by any means imply that the policy is unsound. Local conditions must always be considered and respected regardless of the theoretical soundness of a financing policy. Nevertheless, this policy is the one the superintendent should have in mind at all times when he is planning a building program. He may attain the policy only in a small degree, or not at all, at first. But he may, in many instances, find it possible, by a careful planning of his building program, to make a gradual transition to at least a partial, if not a total, adoption of the policy.

The Trend in the True Value of the Per-Capita-Tax Assessment as a Factor

The policy suggested above permits the use of the pay-as-you-go plan in cities where building is annually recurrent or nearly so. However, two other factors must be considered. One of these is the trend in the true value of the per-capita-tax assessment in the individual community.

⁵Strayer, George D. and Engelhardt, N. L. *Report of the Survey of Certain Aspects of the School System of Chattanooga and Hamilton County, Tennessee*. Bureau of Publications, Teachers College, Columbia University, New York City, 1929, p. 72.

If in cities where building is annually recurrent, the construction of buildings entails the same, or about the same, cost each year, and if the true value of the tax assessment does not decrease, then it is ordinarily fair and just to finance the buildings on the pay-as-you-go plan. On the other hand, if the cost incurred by building is increasing and the true value of the tax assessment is stationary, or is increasing at a slower rate than the building cost, there is less fairness and justice in using the pay-as-you-go plan. And the greater the discrepancy between the two rates, the less fairness and justice there is in the use of the pay-as-you-go plan.

Now it is evident that school-building costs will increase at approximately the same rate as the population of the community. Rapidly growing cities will, therefore, have greater costs to pay than slow-growing cities. But if the true value of the tax assessment keeps pace with the population growth—and consequently with the building cost—all cities that construct school buildings annually are justified in using the pay-as-you-go plan.

An index of the relation between the increase in population and the increase in the true value of the tax assessments is the true value of the per-capita-tax assessments. If, over a period of years, the per-capita assessment is decreasing, then the population is outstripping property valuation. Borrowing is almost essential. If the per-capita assessment remains the same, property valuation and population are growing at the same rate. But, if the per-capita assessment is increasing, then the rate of growth of property valuation is surpassing that of population. It is evident that the greater the increase in the true value of the per-capita assessment, the greater will be the ability to finance school buildings by direct taxation and, consequently, the less the need for borrowing.

In order to ascertain the rate of increase of the true value of the per-capita assessment in both fast- and slow-growing cities, the writer collected the necessary data for 99 cities with population of 30,000 or more for the years 1900 and 1921.

It was found that the true value of the per-capita assessments in the cities of the fast group on the average increased 99.0 per cent from 1900 to 1921. The slow group increased 69.5 per cent. The bearing of this finding upon the method of financing school buildings is immediately apparent. Rapidly growing cities necessarily spend more for capital outlays in the same period of time than do slow-growing cities. But the ability of rapidly growing cities to pay is increasing more rapidly than the ability of slow-growing cities. Therefore, as a general rule, fast-growing cities, despite their heavier burdens, are more able to pay as they go than slow-growing cities.

The Results in Terms of the Same Dollar

A comparison of the true value of the per-capita assessments of the 99 cities for the years 1900 and 1921, in terms of the same dollar, showed clearly the unequal ability of cities to finance school buildings and other public improvements. It was found that in slightly more than half of the cities the true value of the per-capita assessment decreased. However, the findings substantiated the original conclusion that, as a general rule, rapidly growing cities are better able to finance their outlays from direct taxation than are slow-growing cities. In 62.5 per cent of the rapidly growing cities the true value of the per-capita assessment increased, while in slow-growing cities an increase was shown in but 38 per cent.

It must not be assumed that every rapidly growing city can pay as it goes better than every slow-growing city. This is far from the

(Concluded on Page 92)



GENERAL VIEW, LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri
A Georgian type of building housing 1394 pupils.

Pontiac Completes Balanced Building Program

Supt. James H. Harris, and Architect William B. Ittner, St. Louis

The occupation of the Lincoln Junior High and Whittier Elementary schools, at the beginning of the school year of 1930-31, served to bring into review the recent trend of educational work in Pontiac and the consummation of a building period which has resulted in forward-looking buildings and in committing the schools to varied programs and enriched activity for every student group, from primary grade to senior high.

The Building Program

The building cycle just completed was laid down in 1927. The resulting bond account of 1928 amounting to \$1,965,000 was augmented from various sources, until a building fund in excess of \$2,000,000 had accrued. New structures and additions made to the schools of Pontiac through this building period have included: (1) An addition to the Eastern Junior High School; (2) a gymnasium, an industrial-arts building, and a power plant at the senior high school; (3) the Lincoln Junior High; (4) the Washington Junior High; (5) the Longfellow School; and (6) the Whittier Elementary School.

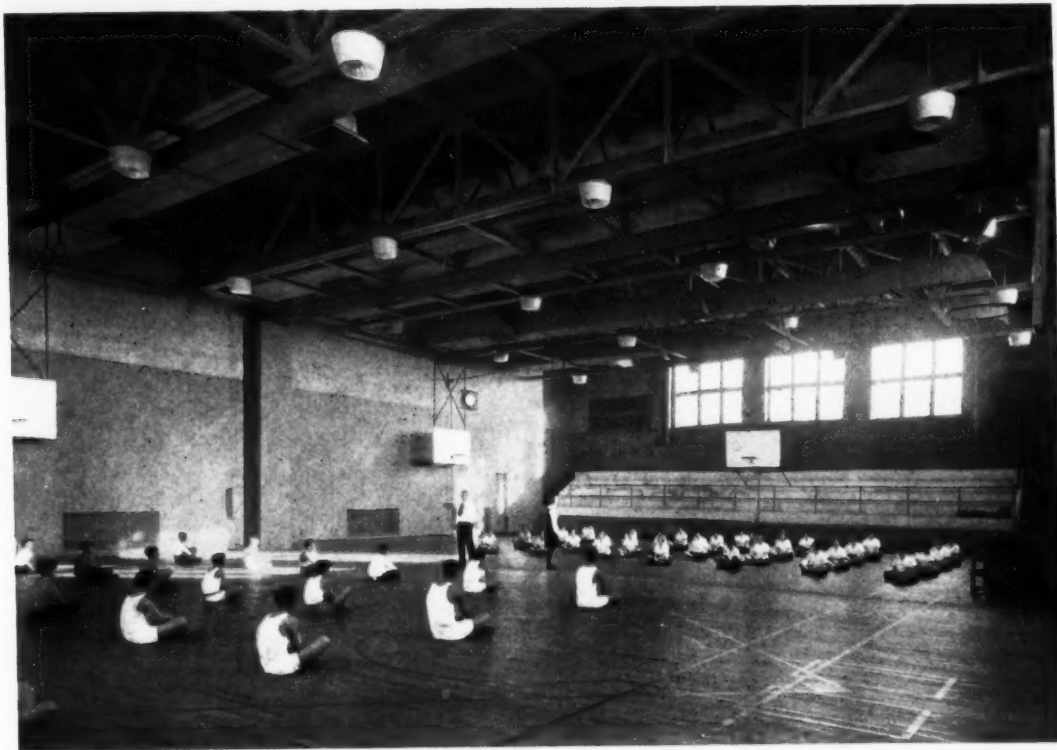
The three firms of architects¹ who participated in this building work have introduced new building thought. Educational service, too, has not been lacking in the new designs. It was the purpose of the building plan to achieve a greater flexibility of courses with consequent ease of daily work. The net result has been to render clearly the functional relationships within the buildings and to aid the working schedules. The total construction outlay was \$2,118,747.25, and with this investment Pontiac has achieved a highly modern background for its schools, and future activities promise consistent and well-anticipated future growth.

Although each school was planned to serve the needs of its particular community which necessitated some differentiation in plan and design, certain fundamental principles dominated all the plans; first, both the elementary and junior high schools were planned to care



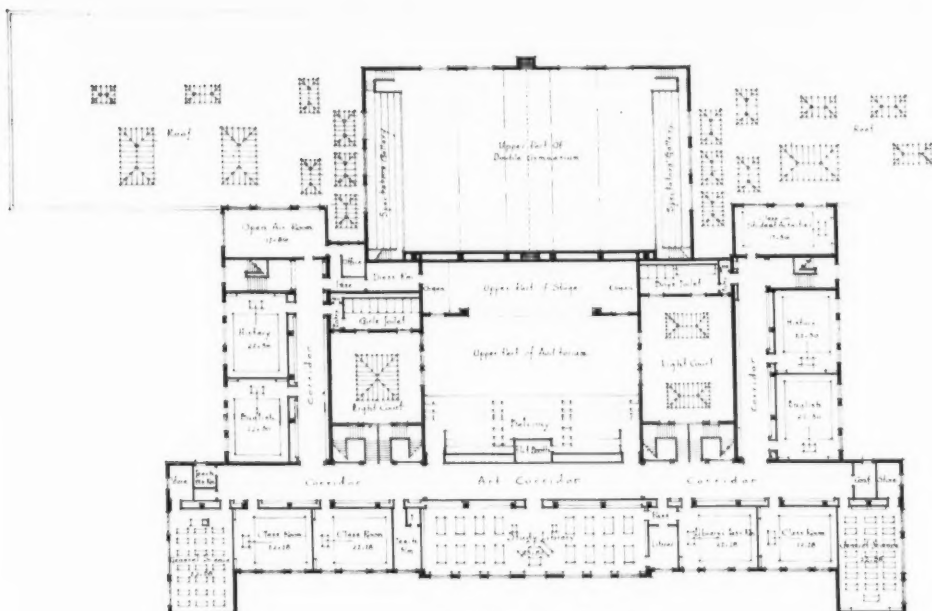
PERISTYLE MAIN ENTRANCE TO LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN,
IS AN EFFECTIVE USE OF PERIOD MOTIF
Wm. B. Ittner, Architect, St. Louis, Missouri

¹Childs and Smith, Chicago; Malcomson and Higginbotham, Detroit; William B. Ittner, St. Louis.

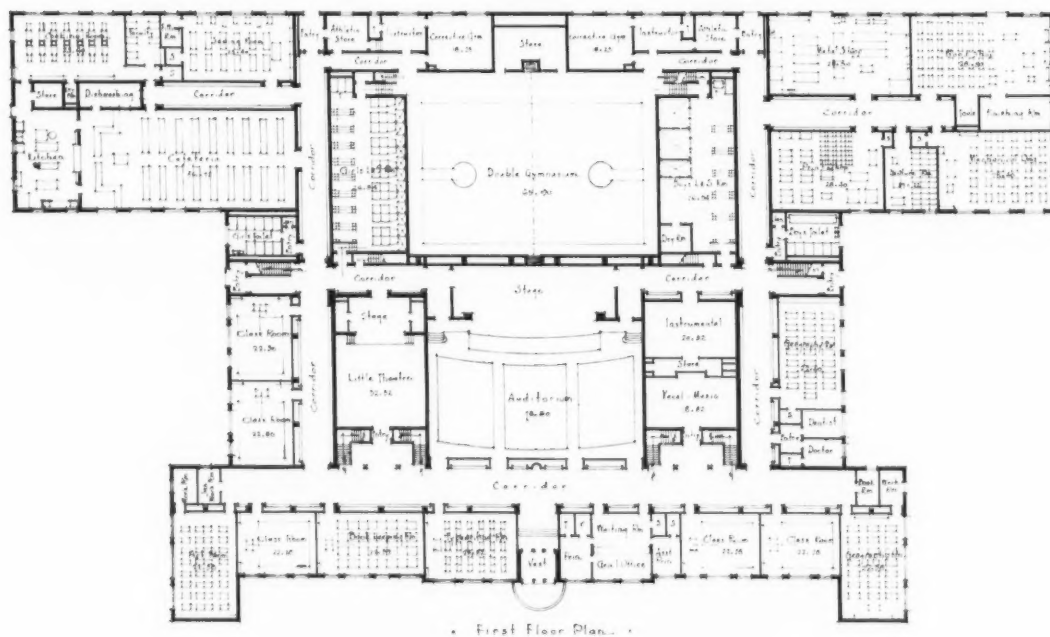


DOUBLE GYMNASIUM, LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri

This room, divided by folding door, gives abundant space for physical education.



SECOND FLOOR PLAN, LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN



FIRST FLOOR PLAN, LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri

for an enriched curriculum; second, the plans were developed so that an efficient departmental program could be realized. A description, then of the Lincoln Junior High and of the Whittier Elementary² schools give a fair idea of the type of school buildings Pontiac has acquired under the recent program.

The Lincoln Junior High School

The Lincoln Junior High School on a site of 11.69 acres allows a playfield of 5.4 acres, and sufficient acreage for a later building to be erected to the south, to house the elementary pupils in this district. The present power plant has been strategically placed to serve the future building and its service plans permit expansion for the added load.

Externally, the Lincoln Junior High School has distinctive Colonial features. Within and without, it is a balanced plan, built with supporting walls of brick. Its dignity pertains largely to its broad longitudinal dimension and a roof line that is pleasingly informal. There is a feeling of directness and simplicity of thought. Its peristyle at the doorway leads through a vestibule entrance to the corridor on a slightly higher level. The auditorium opens up across the corridor, directly in line with the front entrance, and the grouped arrangement of auditorium, little theater, and vocal and instrumental music rooms permits broad stairways on either side of the auditorium entrance leading to the second floor. One feels at once that full value has been placed upon collective school activities and community relationships in such a plan. The layout plainly carries the conviction that auditorium assignments will be prominent in the academic work.

The same functional grouping is noticeable in other departmental work. It is an important segregation which allots a wing to the domestic arts, and houses the cafeteria and cafeteria kitchen with this group. It is compact enough to be treated as a distinct unit for its service units, and it is accessible for trades deliveries and student convenience. Light and air from three sides penetrate these food and sewing laboratories. A wing on the opposite side of the building provides for boys' shop activities in similar fashion. The wood shop and the metal shop on the south of the boys' shop wing border on a cement drive. Double doors opening from each of these shops onto this drive facilitate the easy movement of machinery and materials. To balance the wing, the drafting room and the print shop are on the north, separated by a lecture or demonstration room which serves all shops. Floor space, headroom, storage, and materials delivery are all safeguarded.

The plans show administrative features of equal interest in the gymnasium, with its corrective work and examination rooms in right relationships, and in the library, which is the nucleus of all the academic work, located on the second floor. Attention has been given to the planning of classrooms for special use. Among these are rooms for geography, general science and art. A larger floor space and adjoining workroom with running water have been provided for each of these units. A special room for various types of student activities, including publications, student government, headquarters for campaigns, contests, etc., is segregated from the classroom unit on the second floor. Small student-teacher conference rooms have been arranged at strategic points. The open-air room is physically separate from the other rooms and is controlled by the nurse's office. Below-par children can have rest periods without too great detachment from their usual work, and yet the suite of which the open-air

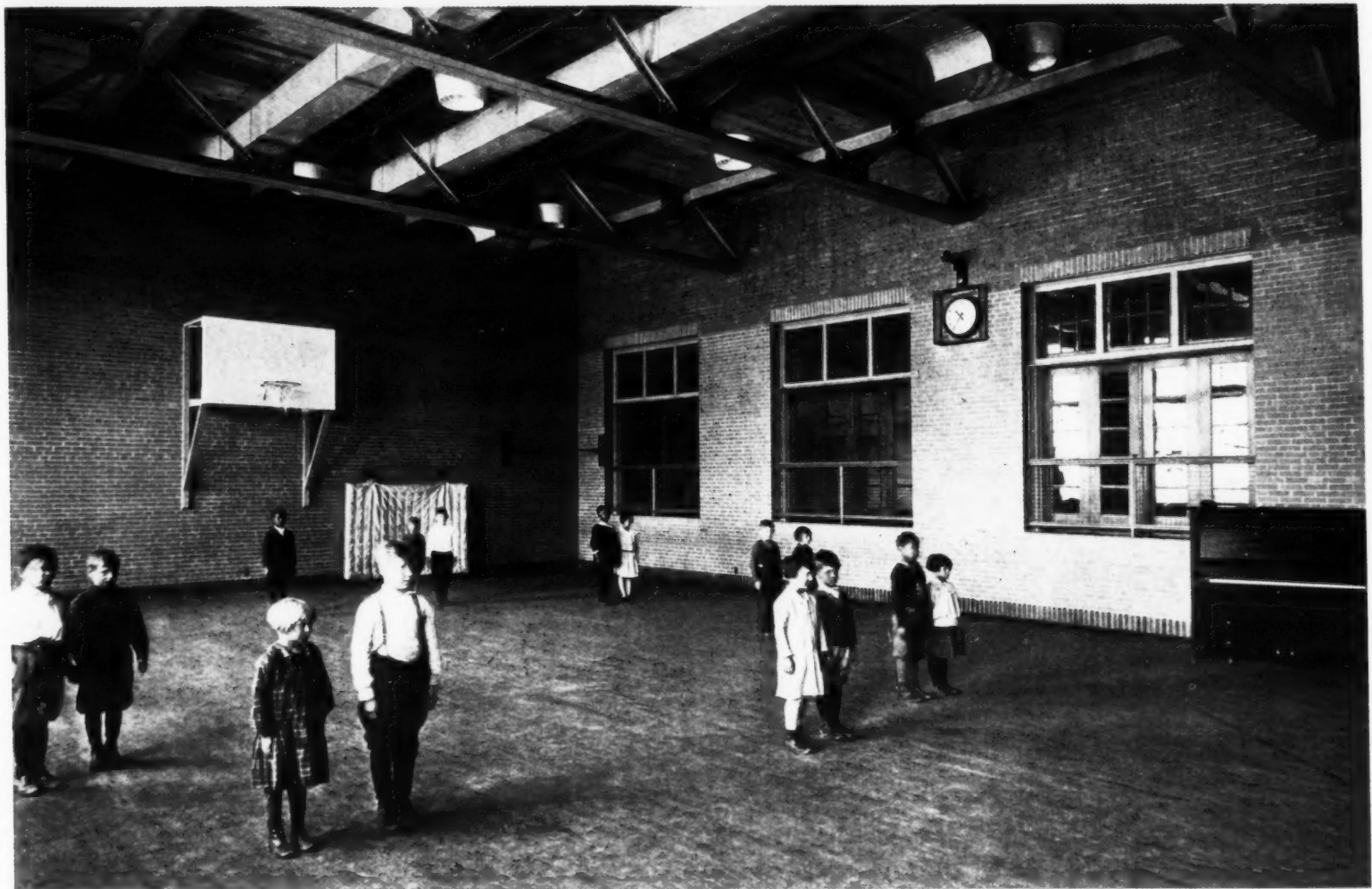
²The Lincoln Junior High and the Whittier Elementary schools were the two schools of the Pontiac program planned by William B. Ittner, St. Louis.



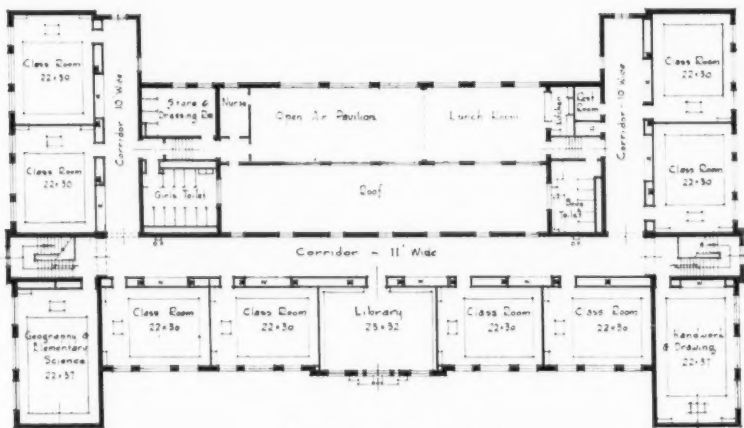
LIBRARY, LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri
The library is located on the second floor and is the organic center of the academic group of rooms.



AUDITORIUM, LINCOLN JUNIOR HIGH SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri
Prescribed auditorium activities enrich the usual schedules.



GYMNASIUM, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri
This room gives play space for all.



SECOND FLOOR PLAN

Scale
0 5 10 15 20

SECOND FLOOR PLAN, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN

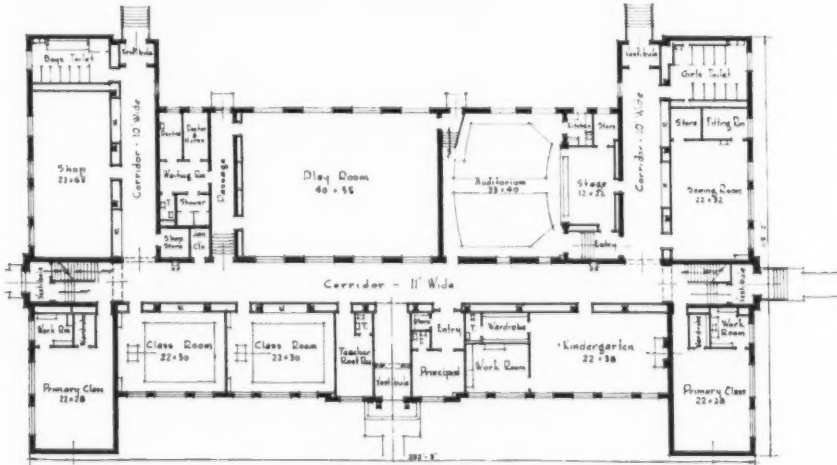


OPEN AIR ROOM, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri

Rest periods and supplementary food are necessary for these children, but school goes on as usual.



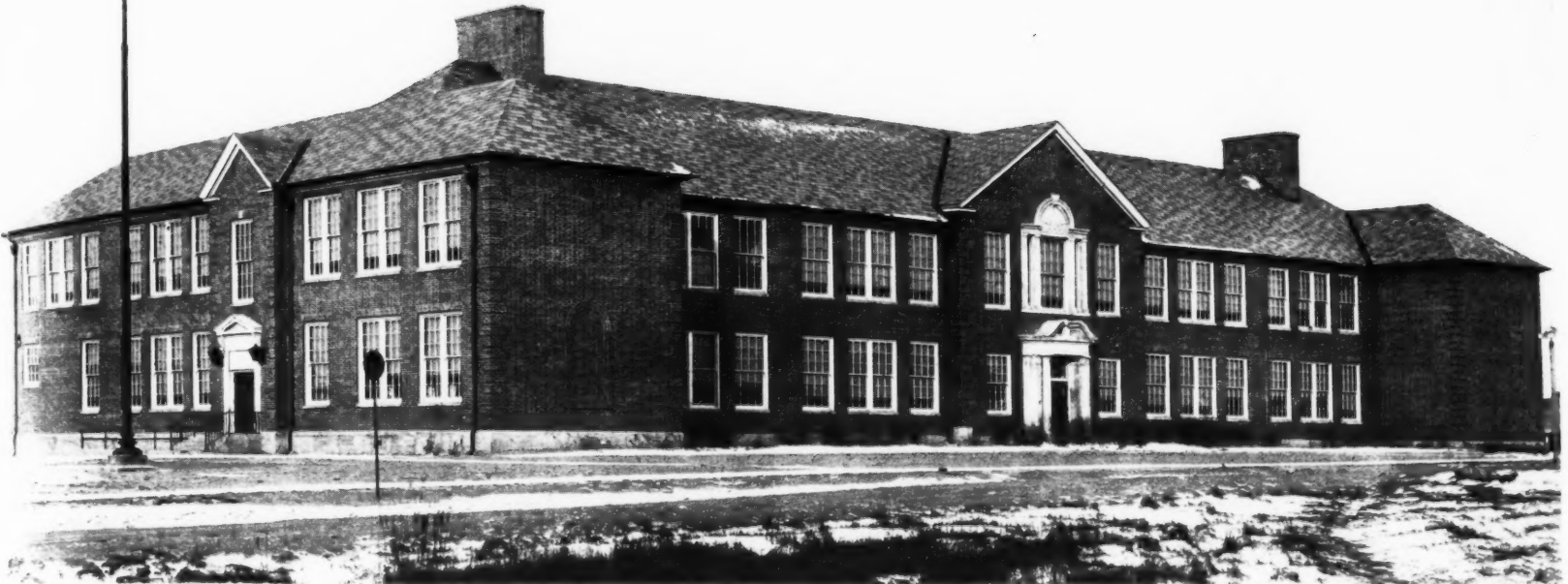
AUDITORIUM, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN



FIRST FLOOR PLAN

Scale
0 5 10 15 20

FIRST FLOOR PLAN, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri



GENERAL VIEW, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri

room is a part can be entirely private. One hundred and eighteen pupils have profited by the individualized schedules made possible by this arrangement. On the first floor near the general office has been placed the clinic, including the offices of the doctor and dentist.

The building is unusually efficient throughout in the percentage of usable areas.

The construction cost of this building, with 1,394 pupil stations, was \$510,000. This represents a per-pupil cost of \$365. The cost per cubic foot was 30 cents.

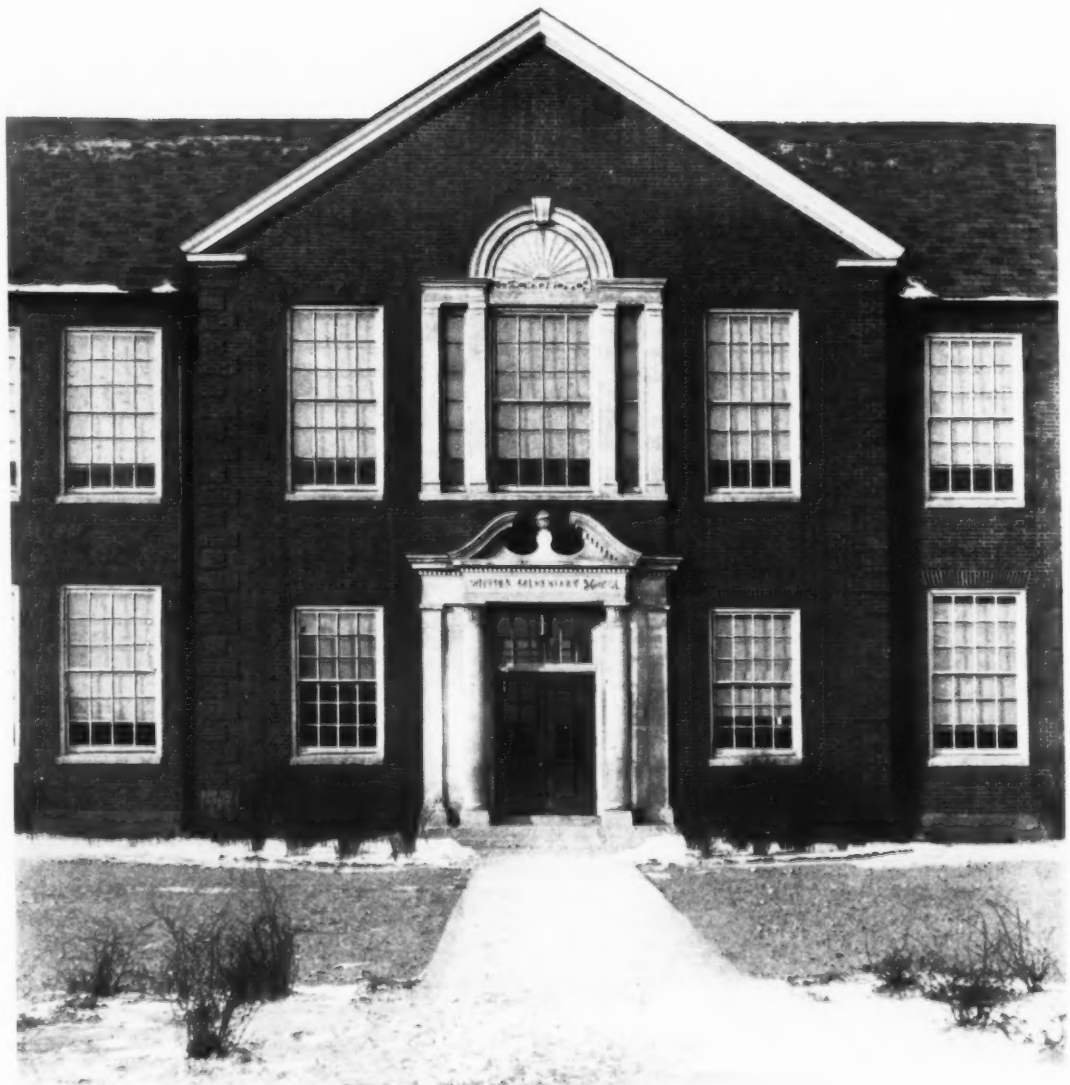
The heating system is unusually flexible, due to the fact that it is arranged in five vertical zones as follows: (1) gymnasium; (2) office and administration rooms; (3) auditorium and auxiliary practice rooms; (4) classrooms; (5) shop wing. This means that groups of rooms requiring widely contrasted conditions of operation are separately controlled. Rooms not in use are readily cut out of service. Coal is used.

Whittier Elementary School

The planning of the Whittier Elementary School has had in view the promotion of an enriched educational opportunity for the lower grades. Playrooms and auditorium are separate, and each of these rooms contemplates a continuous and regular schedule of supervised activities. The physical-education room serves also as the medical clinic.

The Whittier School exhibits a compact plan, and the same functional arrangement observed in Lincoln Junior High pertains to this building. Shop activities and domestic arts are housed in opposite wings of the building. Playroom, auditorium, and a school physician's suite occupy central portions of the building. Administration rooms and teachers' quarters are on either side of the main entrance to the building. Classrooms are brought to the front of the building, and the wings, whose gabled ends effectively break the broad expanse of building front, provide unusually large rooms for freedom in the primary classes. These rooms

(Concluded on Page 92)



MAIN ENTRANCE, WHITTIER ELEMENTARY SCHOOL, PONTIAC, MICHIGAN
Wm. B. Ittner, Architect, St. Louis, Missouri
Bespeaks a fitting school home for small children.



DONORA JUNIOR-SENIOR HIGH SCHOOL, DONORA, PENNSYLVANIA
C. C. Compton, Architect, Donora, Pennsylvania

A School Planned for Economy and Flexibility

The Donora Junior-Senior High School at Donora, Pennsylvania

The new junior-senior high school, recently completed at Donora, Pa., contains a number of interesting and unique educational features. In its planning and arrangement special attention has been given by the superintendent of schools and the building committee, in cooperation with the architect, for the purpose of securing greater efficiency and increased economy in construction and operation.

The building is two stories in height, with a basement under a portion of the building, and a sub-basement under a part of the north wing. It is of semifireproof construction; the basement walls are concrete up to the first-floor level, and the entire outside walls are of brick and terra-cotta blocks, trimmed with stone.

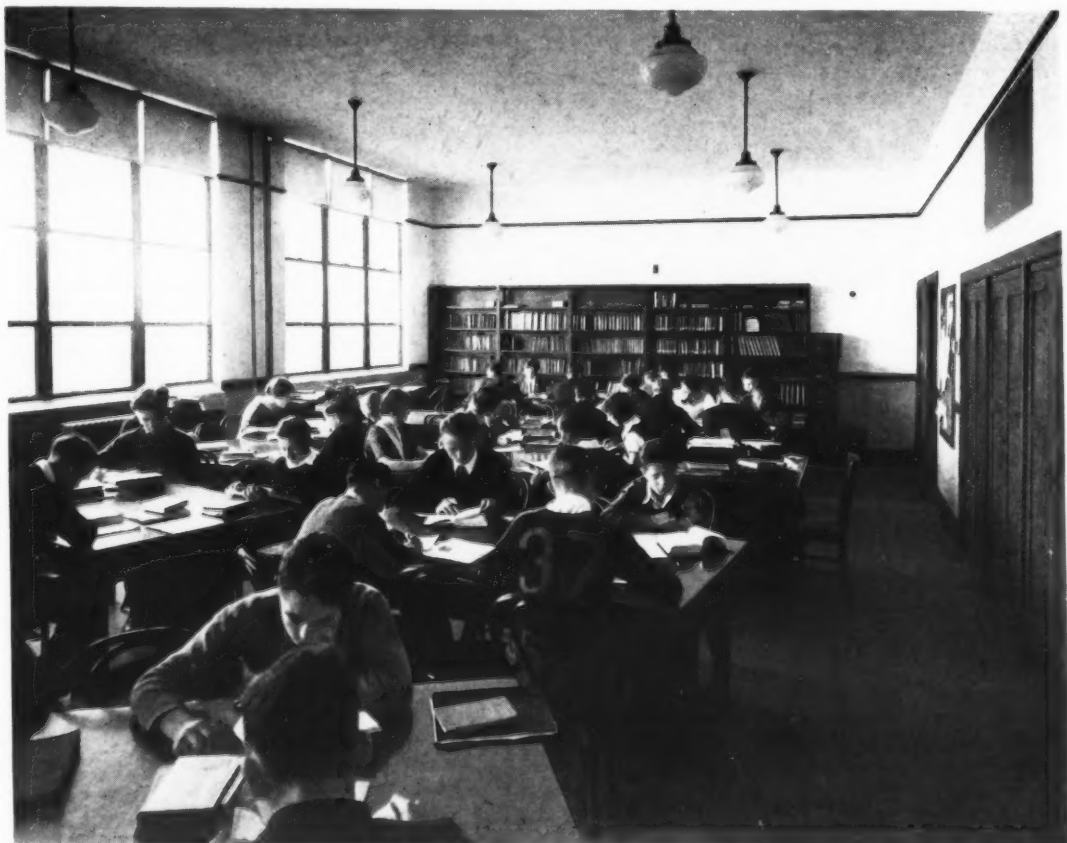
The sub-basement contains the metal-working and auto-mechanics shops. The basement proper contains seven rooms for the manual-arts department, which occupies the entire left wing of the basement; four shower and locker rooms, physical director's room, the fan room, the transformer vault, the electrical-equipment room, the gymnasium-apparatus room, the janitor's storage room, the gymnasiums, boiler and fuel rooms.

The gymnasiums, which are located in the central portion of the building, include a girls' gymnasium with a playing floor 35 by 60 ft. in size, and a boys' gymnasium with a playing floor 40 by 70 ft. in size. Bleachers are arranged on the left side of the gymnasium extending up to allow entrance from the first-floor corridors, and making an easy means of entrance and exit from the gymnasiums. The bleachers have a seating capacity of 370 persons.

The first floor contains 32 classrooms, in addition to bookkeeping, typewriting, work-and supply rooms, offices, and auditorium. The offices are located on the right side of the lobby and consist of three rooms divided by glass partitions, with a fireproof vault in the wall.

The supply and workrooms have been placed on the left side of the lobby and are directly connected so that the clerk in charge may keep a close check on incoming and outgoing books and materials. The auditorium, which is in the central front section of the building, has a seating capacity of 1,600. It is provided with exits at both the front and rear to facilitate the rapid exit of audiences.

The second floor contains a classroom, in addition to general science, laboratory, and geography rooms, a foods laboratory, a study hall; biology, physical, and chemical laboratories; a teachers' room, a pupils' room, a medical-examination room, the balcony of the auditorium, and the cafeteria. The cafeteria, which is directly over the gymnasium, is across the hall from the kitchen.



LIBRARY, DONORA JUNIOR-SENIOR HIGH SCHOOL, DONORA, PENNSYLVANIA
C. C. Compton, Architect, Donora, Pennsylvania

The rooms are arranged to receive light from one side and the windows are separated by narrow mullions, which eliminates shadows and makes the ceiling light uniform throughout the rooms.

The wainscoting in the corridors, the lobby, the stair towers, the gymnasiums, and in the toilet rooms is of salt-glazed brick and ranges in height from 4 ft. in the corridors and stair towers to 6 ft. in the gymnasiums and toilet rooms. The interior walls of the gymnasium are of tile painted, and the balance of the walls and ceilings throughout the building are plastered. A minimum of hardwood trim has been used.

The floors in the auditorium, the gymnasium, and the classrooms are of hardwood. Tile has been used in the lobby, the stair towers, and the corridors.

The stairways have been arranged to facilitate rapid exit from the building in an emergency and to permit the pupils to be transferred from one floor to another with a minimum of floor travel.

The sanitary equipment throughout the building is of vitreous china. Sanitary bubblers are also located on each floor in the corridors, and in the shower and locker rooms.

The heating and ventilating equipment is ample for each classroom, study hall, laboratory, and shop. The gymnasiums are heated by unit heaters and ventilated through stacks by means of gravity. The toilet rooms are heated by direct radiation and ventilated by exhaust fans placed at the second-story ceiling. The auditorium is heated by a split-steam system and ventilated by gravity. The entire system is operated by an automatic temperature sys-



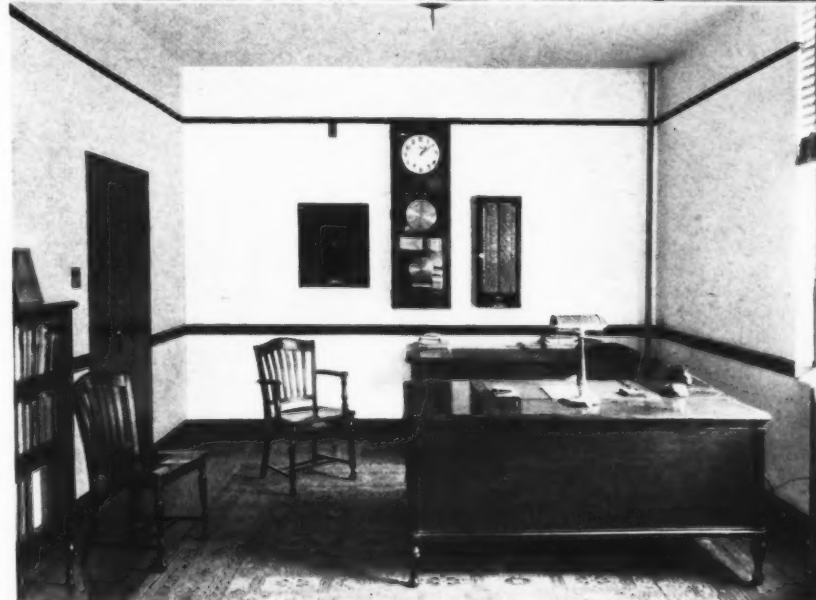
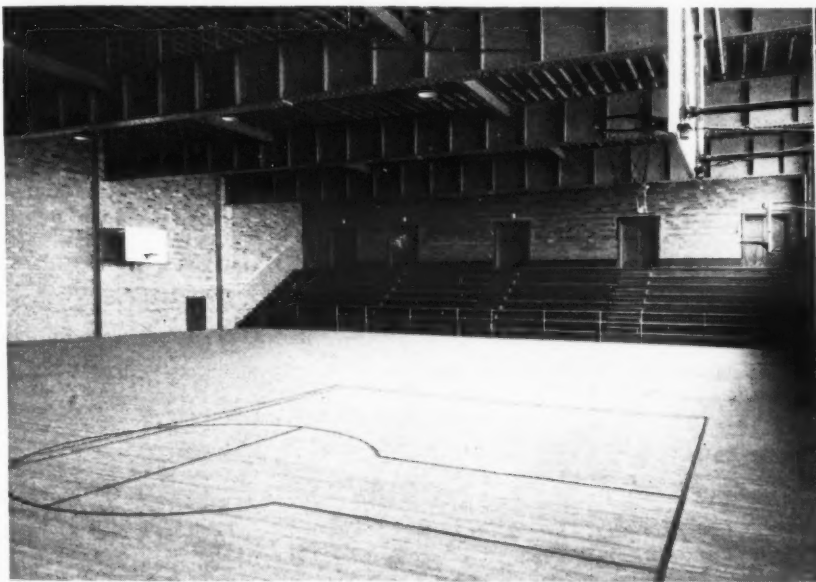
AUDITORIUM FROM REAR, DONORA JUNIOR-SENIOR HIGH SCHOOL, DONORA, PENNSYLVANIA
C. C. Compton, Architect, Donora, Pennsylvania

tem, which insures the required temperature at all times.

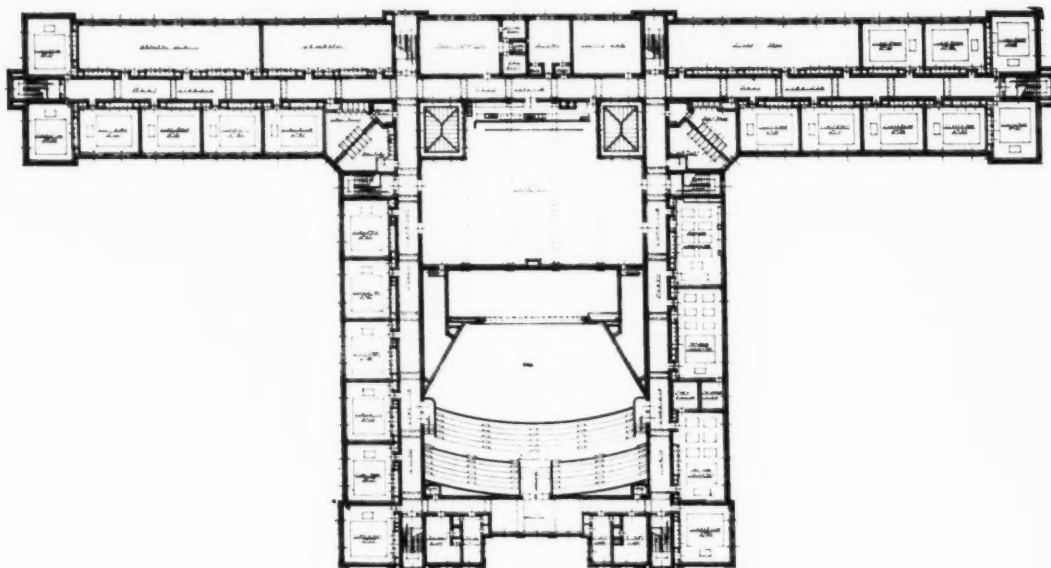
A complete electric-clock and program system has been installed for conducting the school program.

The exterior of the building is simple while

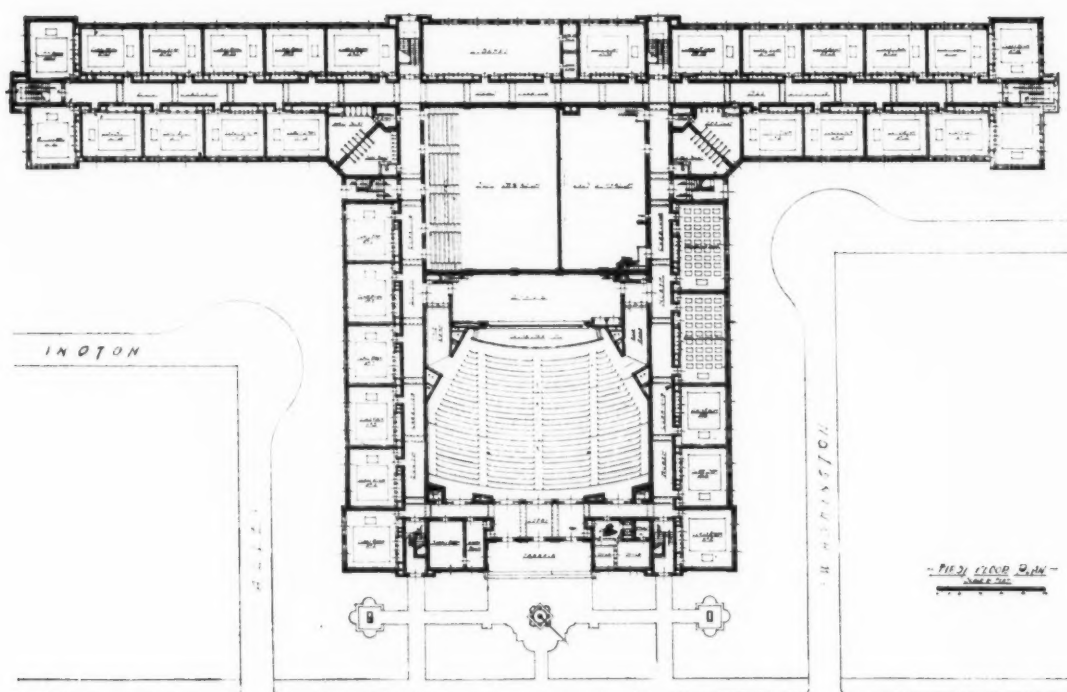
thoroughly academic in character, and is characterized by simple, straightforward details and appropriate materials. The exterior walls are of buff brick, trimmed with Indiana limestone. The front entrances are of cut stone and are simple and graceful in outline.



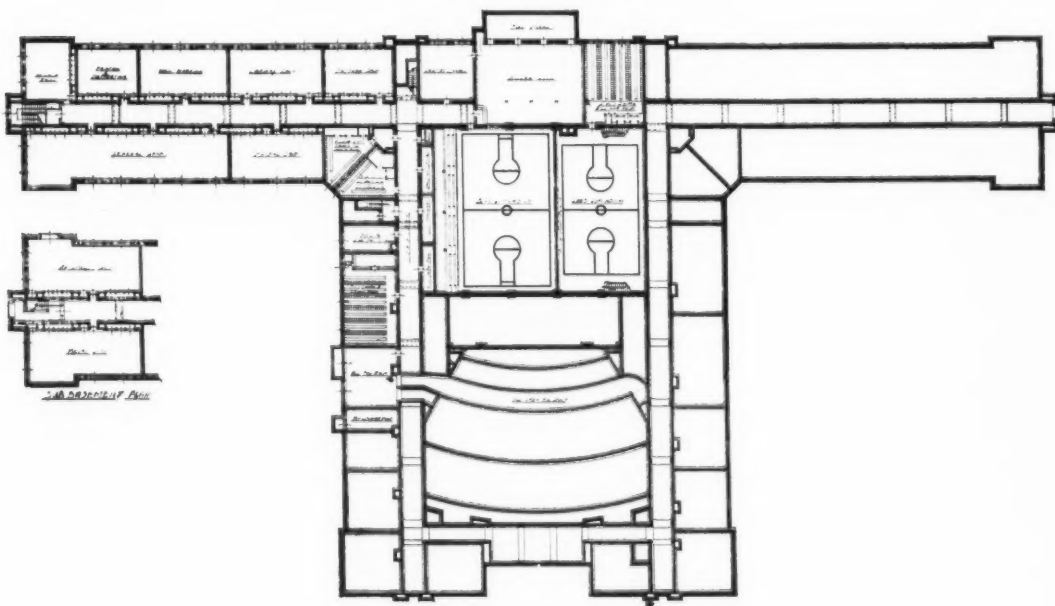
INTERIOR VIEWS OF THE DONORA JUNIOR-SENIOR HIGH SCHOOL, DONORA, PENNSYLVANIA
C. C. Compton, Architect, Donora, Pennsylvania
TOP: Gymnasium and Typical Laboratory; BOTTOM: Superintendent's Office and Main Lobby



SECOND FLOOR PLAN



FIRST FLOOR PLAN



BASEMENT PLAN

FLOOR PLANS OF THE JUNIOR-SENIOR HIGH SCHOOL, DONORA, PENNSYLVANIA
C. C. Compton, Architect, Donora, Pennsylvania

The contract for the construction was awarded in October, 1929, and the building was completed and occupied in September, 1930.

Two additional wings will be erected at some time in the future in accordance with plans previously made. The portion of the building

which has been completed will take care of the senior-high-school work and the new section to be added will provide for the junior-high-school pupils.

The building was planned and erected under the supervision of Mr. Conrad C. Compton, of Donora, Pa.

GLASS BREAKAGE IN CHICAGO SCHOOLS

The business manager of the board of education of Chicago, Ill., has received a report from Mr. C. J. Lamb, superintendent of construction, referring to the breakage of glass throughout the school system for the first six months of 1931. Mr. Lamb presented a table, showing the number of lights of glass installed at various schools for the period from January to June, 1931. In this table appears (1) the number of lights of glass installed per month, (2) the number of glaziers employed each month, and (3) the average number of lights installed per man per day.

The report shows that the largest number of lights of glass, 6,654, was installed in June, and the smallest number in January and February. A total of 28,194 lights were installed during the six-month period, the first four months representing the period during which there was a small amount of breakage. Beginning with the spring weather the breakage, year by year, increased and reached its highest peak during the vacation period (July and August), and is also high in September. With the closing of school and the turning of children on the streets, the breakage increases.

The construction department has for years tried to minimize the tremendous breakage in an effort to save the board of education this enormous expense. Almost every method has been tried to bring about this result. Talks have been given in an effort to sell the idea to parents that the cost of the breakage comes out of their own pockets, and that they paid for it either directly or indirectly in taxes. In some cases the size of the panes was cut by installing cross bars, so that when a window was broken it would require one or two small panes to be installed, instead of a large light.

It was brought out that at times from 200 to 300 lights of glass are broken over a single week-end at some of the schools. The report may come in that 75 lights have been broken, and when the glaziers reach the school it is found that double the number has been broken from the time the report was first made and the date on which the glaziers called. Frequently on Monday morning, an engineer upon going to his school will find from 50 to 200 lights of glass broken, so that it has become necessary to keep large supplies of glass and putty on hand in order to make immediate replacements. Considerable difficulty has been experienced in determining how large a supply of glazing material is needed, how long the supply will last, and how to guard against an insufficient supply for use when a large breakage occurs. Considerable care is exercised in filling requisitions from schools for glass, and the amount ordered by each engineer is reduced wherever possible.



ENTRANCE DETAILS, DONORA JUNIOR-SENIOR HIGH SCHOOL, DONORA, PENNSYLVANIA
C. C. Compton, Architect, Donora, Pennsylvania

Living a Great Life

A Story of the Twenty-seventh Year

Fred J. Ward

There is a difference between the life of a great man and the history of a mediocre man who has played out a great life. I say this, not to formulate a philosophical prelude to what I plan to tell, but rather to warn the reader that this story is not good research material for a history of public education.

James J. Haddock had been superintendent of the Valley Center schools for twenty-four years. Nobody could recall that he ever had the offer of a promotion; maybe he had never tried very hard to obtain one. He had become a part of his community. The community had become a part of him.

His people had learned to endure little peculiarities in him, which they would not have tolerated in anyone else. For one thing, he had a way of speaking his mind freely. His judgment was not always right, but it was outspoken and honest and nobody ever doubted just where he stood.

So far as the children ever knew, there was no situation he was afraid to attack, there was no youngster or group of youngsters that he was afraid to discipline.

His temper was short and irascible at times. Occasionally he exploded into violent language. These blow-ups were the more effective because they were never premeditated, and no teacher or parent or pupil ever knew what picaresque might bring down the superintendent's wrath.

He did not have that detachment or that indifference which goes so often with true greatness. He lived and felt keenly the things that were going on about him. Whenever you told him something his expressive features would take on little twists of pleasure or pain or anger or laughter — perhaps in sympathy with the emotion of the teller — and you got the feeling that he understood everything that you were pouring out of your heart.

At the end of the twenty-fourth year Superintendent Haddock announced that he wished to resign. When the school trustees pressed him for a reason, he told them that he was getting old; that his methods were out of date. Moreover, he had long cherished an ambition to have more time for study. He wanted to prepare some theses which interested him. He would, he said, maintain close relationship with the school. If his successor and the school board were willing, he would teach a few classes in the high school at whatever salary they might choose to pay.

There was a great deal of talk around town of persuading him out of the notion. It was not a fortunate time for a change of administration. Valley Center had become the site of a sugar-beet factory and the distributing point for the beet-growing industry which was invading the neighborhood. Foreigners were moving in, and there was the pauperism and truancy which attends sugar-beet growing. But with characteristic stubbornness Mr. Haddock refused to change his mind and in the end he got his way.

There were school executives about the state who wondered just how the arrangement would work out. Some of them hesitated to apply for the place because they knew that the old superintendent would be there as a teacher in the high school. But the new man, who was now Superintendent Henry Lenox, told his friends at a teachers' convention during the fall, that things were working out very well. Mr. Haddock was an excellent teacher of history, and he entered into his new duties with a zest and skill which were surprising for a man who had

not been in the classroom except as a visitor for over twenty years. For a time the teachers and students could not get over their long-established habit of coming to him with their troubles, but he seemed to take an irresponsible delight in referring all matters to Mr. Lenox. He was, it appeared, fully determined to be relieved of administrative detail. Possibly, for the first time in his teaching experience, he was enjoying himself immensely.

It is never easy to follow a man who has been in a town twenty-four years. Careful though he was to leave the new man a free hand, Mr. Haddock could not immediately wipe out the imprint he had made upon the policy of the school. Superintendent Lenox found a great number of details not to his liking; little things which the old administration had failed to correct and had finally got used to. By pupils and teachers he was continually being reminded that certain of his methods were not what they had been when Mr. Haddock was in charge. Even the school board showed a tendency to refer back to the practices of Mr. Haddock. A few times they held up action on a proposed change until they could talk with Mr. Haddock. These experiences were not pleasant for Mr. Lenox.

Developments in Valley Center and particularly in the sugar-beet industry were not leading the school along an easy path. Valley Center was growing from a country town to a minor city. The school plant was overcrowded. The older group was slow to realize that an extension of the school plant was due. They were prone to find fault because the superintendent was continually asking for more money to care for the new children. The class of people coming into the neighborhood added to the school population without contributing much to the income of the district. The tax rate went up. There was grumbling.

Superintendent Lenox cultivated friends among the people who never had been allowed a voice in the affairs of the school. It was reported later that he helped to defeat the mayor, the second year he was superintendent in Valley Center. It is not likely that he was entirely responsible. Every town has a submerged vote ready to become a majority whenever confusion arises. But Mr. Lenox did take an active interest in the campaign and, when the term of two members of the school board expired, the new mayor did not reappoint either.

At this time plans had been made to build a new high-school building. The old one was too small, too far out of date. The block where it was located, once in a pleasant residence neighborhood, was now entirely surrounded by the shanties of the sugar-beet workers.

A NEW RACE OF TEACHERS

All discussion of educational reconstruction depends upon the development of a new race of teachers — teachers who, through their own creative efforts, are able to call forth in their students constructive creative leadership. The teachers' college of the future has for its chief problem the selection and development of a generation of teachers rather different from the typical teacher of today. This imperative need of a new type of teacher calls for radical modification of our present institutions for the training of teachers. — Thomas Alexander, Columbia University.

The mayor's election brought to a head the resentment which had been festering under the surface in Valley Center. The crowd who had been ousted from control of the city and the schools, had been taken by surprise, and this feeling rapidly turned into resentment. They blamed the superintendent for their defeat. They compared his cautious vacillations to the fearless ways of his predecessor. About this time somebody wrote on the walls of the high-school building: "Down with Old Lenox. We want a real Man." The writing was so big that nobody could help but see it. The janitors washed it off.

What I am describing is the capering and cavorting of American democracy at its worst. It usually stops unless an election is approaching.

But another incident kept the agitation alive. Cases of infantile paralysis broke out among the children in the shanty part of town, which through a mistaken feeling of city loyalty the local papers did not mention. The news of the epidemic came through the state press, and the danger was magnified because word of it came from so far away. People who had given hardly a second's thought to conditions among the sugar-beet workers now began to talk excitedly about the terrible breeding place shanty town offered for every catching disease. The city health officer published a belated statement that there were not many cases, but the agitators would not believe him because they did not want to be reassured.

Talk like this does not remain negative for very long. Out of it always comes a definite, positive program. Someone proposed that there should be two high schools instead of one. The new one would be placed in the west end where the more respectable people lived. The old one could be maintained for the Mexicans, Negroes, and others who inhabited the shanties on the east side. Just how this would settle the question of epidemics no one tried to explain. The slogan for two high schools was grabbed up, and like most slogans it saved the excited partisans from any necessity to think the problem through.

Superintendent Lenox hesitated, but his school board, who had been supported by the newer element of the town, voted by a majority of one to reject the proposal. Although this action was expected, public temperature rose rapidly to the explosion point.

The affair had been talked about so much now that the children took it up. One morning eight high-school boys stood on the corner of the street and announced that they would never go to school so long as the place was infested by Negroes, Mexicans, and the like. Word flashed among the classrooms that there was to be a walkout, and at ten o'clock all the American children were out in the street, milling around, wondering just what to do next.

When the children left the classrooms, Mr. Haddock went to find the superintendent, but the office girl told him that the superintendent was gone; had been gone for half an hour. Mr. Haddock paced up and down the office. He rumbled his hair, as he always did when something had roused his anger. He strode out of the building. Excited word passed among the children of his coming. There was a hush as he reached the edge of the crowd.

"What is the matter with you?" he demanded. "Don't you know that you belong inside?"

This was not diplomacy. It was not oratory.

It was the voice of authority. There was a deeper silence. Those in front avoided the speaker's eye.

"Henry Martin," Mr. James Haddock called out. "Martin Luke, Everett Hanson, James Brady—where is James Brady? Oh, there you are trying to hide. Margaret Frasche"—he singled out a dozen children by name. "I'm expecting you to be in my room in five minutes."

He turned about and walked rapidly toward the high-school building. When he had gone twenty steps he stopped and faced his students again.

"I thought I had spent twenty-seven years to a better purpose than to teach wholesale truancy," he said.

For a moment the crowd remained silent, watching the retreating figure. Martin Luke picked up a tiny pebble and threw it across the street with a flick of the elbow. "Come on fellows," he said. "We'll settle this business later."

With one accord the mob of high-school students trooped rather sheepishly into the high-school building. They had not intended this to be more than a demonstration. Secretly they had welcomed the command of their former superintendent to get back to work. There was no malice in their act for, while youth absorbs prejudices readily, it is rarely given to lasting resentments.

At the outset of the trouble, when Superintendent Lenox discovered that his pupils had walked out on him, he had driven to the school-board chairman's house. Hurriedly the school board had been brought together and at the superintendent's urgent request it was voted to promise the children what they and their parents were demanding. Now when he got back to the high school, the place was operating as though nothing out of the ordinary had occurred.

* * *

The rest of the quarrel in Valley Center has been duly reported elsewhere, for at this stage the thing got into the city dailies. There was, it may be recalled, a new superintendent elected two weeks after the children's walkout. Mr. Lenox was paid six months' wages and set at liberty. But having broken a man at the wheel, the snorting democracy in Valley Center promptly forgot the issue about the two high schools. At any rate, the business was forgotten during the events which followed.

The new man, who shall be nameless in this story had ways of his own and ideas of his own about the mix-up in Valley Center. He had read the accounts in the papers about the school strike. The headlines of the *Daily Chronicle* had run in a three-deck cat-hop:

OLD BOSS ORDERS STRIKING PUPILS BACK TO CLASSES

Former School Head Takes Charge
When Superintendent Fails
To Interfere

I have reproduced this headline, together with the pyramid which followed it. To show how subtly misleading it is, as so many summaries written in lines of fifteen spaces each must be misleading. The new man was convinced that former Superintendent Haddock was the key to the whole trouble. He believed that no peace could be restored in the town until Mr. Haddock had been dismissed from the schools for good.

This was one of the conditions under which he accepted the position. The school board tried to accomplish this diplomatically. They offered Mr. Haddock his salary in full to the end of his contract if he would find an excuse to resign. But it was against the very nature of

THE GOOD TEACHER

A good teacher must be supremely interested in her vocation, as a good lawyer, a good doctor, a good merchant, are interested in their vocations. A good teacher must be proud of her vocation as a good lawyer, a good doctor, a good merchant, are proud of their vocations. A good teacher wants her associates to know that she is a teacher by choice of profession—that she has chosen this profession because she believes in it and delights to serve the children of her assignment. — M. G. Clark.

the man to practice any kind of evasions. He told his trustees that he had no intention to take a bonus for quitting and that they could have his resignation any time they passed a resolution asking for it. After some hesitation the board did pass the resolution and Mr. Haddock resigned as he had promised. That was almost twenty-seven years after he had come to Valley Center.

It would be quite easy to grow sentimental about those twenty-seven years of faithful public service, but this has already been done only by those who make a specialty in human-interest stories. One account, written by the best feature writer on the *Daily Chronicle*, appeared in the Sunday issue, two weeks after Mr. Haddock was ousted, and to this I shall refer the reader. I prefer to discuss these events as a problem of school administration and their effect on the classroom, where the final reckoning of a school fight must be made.

The discipline in the high school at Valley Center had ceased to be. It was not the confusion which springs through natural outlawry. The children were bewildered. They had heard too much in their homes and on the streets. They got to talking over the merits of this or that detail as the situation progressed from confusion to chaos. The teachers did what they could to keep their own classes in order, but the dynamic force of the superintendent's office, where Mr. Haddock had held forth was now gone.

Children resent a weak voice of authority. They resent disorganization. And everyone of the five-hundred students in the high school had come to associate authority and organization with Mr. Haddock. Now that Mr. Haddock was thrown out of the school their resentment was fanned into open revolt. For the second time that year the student body walked out. Only this second time the walkout was better planned. Not a student remained behind. They paraded Main Street shouting the name of Haddock. They gathered in front of the Haddock residence where they gave their school yell and called for him to come out.

Mr. Haddock appeared at his front door wearing a pair of heavy shoes and an old coat, for he had planned to spend the day in the garden. Excited voices informed him that the school was out and would stay out until he were reinstated in the high school again.

Mr. Haddock raised his hand. The crowd hushed.

"I suppose," he said, "you meant this as a tribute to me. I might tell you what I think about truancy. But I will not. I shall take your behavior in the spirit you intend it."

His voice had been gentle but now it rose loud and clear.

"You children have heard all of the sordid and spiteful things that have been done and said about this school. And I'll leave it to you, if malice and spite have not gone entirely too far. I would like to ask this crowd whether you will join with me in trying to restore peace and harmony into the Valley Center high school."

A hundred voices promised him that they would.

"I knew you would say that," he told them. "But I would like to ask you further. Will you follow me today wherever I go?"

He had intended to say more, but at this point confusion broke out. There was a shout that they would follow him anywhere he might lead. For the second time that year he took over the leadership of a mob of children. And he led them back to the schoolhouse again as he had done before. It is an excusable bit of vanity that he marched them down Main Street, three blocks out of the way. The town that morning witnessed a strange street parade—a long column of children following an old white-haired man dressed in heavy shoes and a dilapidated coat, much as the children of Hamelin followed the Pied Piper.

When they arrived at the schoolhouse he led them down the main corridor. He threw open the big doors to the general assembly and stood aside for them to enter. When they were all seated, he held up his hand for silence.

"I have sent for your superintendent," he told them. "When he comes I want you to listen carefully to what I have to say."

When the superintendent was brought, Mr. Haddock caught him by the arm and the two men stood side by side in front of the students.

"Mr. Superintendent," he said, "your children came to see me this morning. They and I agreed that we would like to have a good high school in this town. They have promised me that they would do everything within their power to help you bring order out of disorder. They have all promised me that."

He pulled out his watch. "It's just two minutes before the ten o'clock bell strikes. I won't keep you from your studies any longer."

He turned to go, but with his hand on the door knob he faced his students again. "God bless you children," he said gently. "You have made me feel that I have friendships that nobody can take away. But—why did you think you could help me by a lawless act like that?"

And this is about all the story there is, so far as it deals with restoring law and order in the Valley Center high school. The superintendent took advantage of the resolution of the children to get back to work and the situation came gradually into his control. Organized government got the upper hand again. The worst of the commotion ended.

But this was not to be the end of Mr. Haddock and his public service in that town. Shortly after he led the striking students back to their studies, the mayor of the town died from a stroke of apoplexy. And as the time approached for the special election which would name his successor, Valley Center showed one of those quick turnovers in public sentiment, which so often bewilder the student of popular government.

There was a flash of the theatrical about Mr. Haddock which had always held popular fancy. The account of his march down Main Street was a household story for weeks afterward. Martin Luke, Everett Hanson, and the rest of the student leaders had adopted Mr. Haddock as their hero. They got into the habit of visiting him during the evening, asking his advice, telling him about their boyish ambitions. Six months after he had been fired, Mr. Haddock held more of the respect and admiration of the people in Valley Center than at any time in a quarter of a century.

It was in this atmosphere that the movement grew to make the former superintendent mayor of the city. There was no organized campaign. The nearest thing to a campaign speech was made by the new superintendent of the schools who told a half-dozen men in a Main Street barber shop that he had misjudged Mr. Haddock and that he couldn't think of a man better fitted for the mayor's office. However, the elec-

The City-County School District¹

John M. Foote, Louisiana State Department of Education

Local school government in America is now lodged in five more or less distinct units of administration: the district, the New England town, the township, the independent city, and the county. There are also many instances of mixed systems in which responsibility is divided between two of these units. These forms have been handed down to us as a heritage from the pioneer period. The district and township originated in New England and spread west and south along the trail of the covered wagon. Every settlement necessarily organized its own school, exercised powers of control, and became the school district. In a few states the township became the local unit. These smaller units were suited to the pioneer period as larger units were impossible under the conditions of that era. The town system originated in Massachusetts, replaced the original local district, and has been adopted throughout New England. Independent city districts are but local units that have grown in population and wealth or centers that have sought and gained separation from township and county units. The county form of organization originated in the South, largely because the county was the civil unit. A further reason is the fact that public education was influenced by the state which, quite naturally designated the local civil unit as the school unit. It spread northward and westward and has been accepted for some measure of control in more than half the states, has become the dominant unit in some eight or nine states, and in three of these—Louisiana, Maryland, and Florida—it has become the unit for all schools, city and rural.

Educational opinion in this country agrees that the local unit of school government in most states is quite often a weak link in our system of schools. Reorganization of small units into larger ones is accepted as a pressing need. The problem arises out of the failure of the present types of organization to provide equal school facilities and services. The glaring inequalities are too well known to require the presentation of data and discussion. They exist commonly among the rural districts, towns, and cities in the same county and in the same state.

Rural Areas Not Always Poor

The wide variations in school facilities are not always between the rural areas in one group and the urban centers in another as we are so often told. All rural districts are not poor, neither are all cities rich when their ability to support schools is measured. It is true that urban centers usually have more wealth, but there are too many exceptions to warrant a general conclusion. For example, data for 1930-31 from seven parishes in Louisiana show greater wealth per school child in the rural areas in three of the seven compared. In Indiana in 1922-23 the average taxable wealth per rural school child was \$7,270 compared with \$6,268 per city child. (Bulletin No. 73, 1924, State Department of Education.) Like conditions can no doubt be found in other states. The financial advantage does not always lie with the town or city. Inequalities are not all on one side. A proposal to unite contiguous rural and urban territory for school purposes cannot, therefore, be viewed simply as a means or scheme for loading the cost of the rural school upon the broad shoulders of wealthy centers.

The inequalities in opportunity are traceable more directly to the local school organization than to any other one cause. Territory having

common educational, civil, social, and economic interests is separated into numerous school units. A single county may have fifty to one hundred school boards. A state may have several thousand.

Governor Franklin D. Roosevelt of New York, when addressing the Institute of Public Affairs at Charlottesville, Virginia, recently made a plea for the reorganization and simplification of local government, and mentioned in the course of his remarks that his state has 9,600 separate local school governments. These minute cells of the body politic have multiplied until we now have more than 150,000 local school units in America. Five or six thousand would no doubt be more than necessary. Separation is the one word that best characterizes local school government. So much division means that barriers are up between two interdependent groups—the city dweller and the farmer. Unity and cooperation must replace separation and division. The hurdles must be removed to permit the integration of common educational interests.

Small Numbers Hamper Programs

Separation of territory is accompanied by many educational limitations revolving around small numbers of school children and divided wealth. Small school systems—town, village, or country—do not have sufficient pupils to justify an expanded educational program. For example, a city enrolling one thousand pupils cannot economically maintain a competent technical staff for administration, supervision, special studies and attendance and other services. The cost per pupil would be too great. The employment of such a staff must rest upon a wider pupil number or social base. Separation not only divides the children, but it also divides the wealth upon which school support depends. As wealth bears no constant relationship to the cost of education, the division is extremely variable. One locality is rich and maintains an elaborate program, and a neighboring district is poor and offers the most meager school facilities.

Thus the inequalities of opportunity can be attributed largely to the separation of territory into numerous local units. Educational leaders have become aware of these problems in recent years and have repeatedly urged the adoption of a larger local unit of school control as the first and most important corrective measure. Unity must replace separation. Educational integration must replace division among groups having common interests. American-level school facilities must rest upon stronger foundations than those handed down to us from the pioneer period. A type of local unit having both the social and economic resources necessary to support modern schools and to provide technical educational service must be developed.

Most proposals for a larger unit of organization center around the county. It is the largest local civil unit in most states; it is already a school unit for some degree of control in more than half of the states and is the controlling unit in some eight or nine. Pooling the resources in population and wealth would unite those having common interests; provide a far wider base for educational effort; level the "Chinese Walls" that now separate city from country. With barriers removed, the age-old conflict between farmer and city dweller would tend to diminish; the intimate social and economic contacts coming with unity would hasten educational integration. Under the county-unit plan no community would live unto itself, but would share responsibility with all others for

providing schools for all children upon an equal basis.

The Community as District

Educational leaders are not unanimous in agreeing that the county is the best form of local organization. Some feel that what has come to be known as the *community district* is superior to the county. Probably the ablest presentation of this type of organization is that found in *Rural School Administration*, Chapter V, by Doctor Julian E. Butterworth. He sets up the criteria for determining the local unit in these terms: (1) Physical resources, including both pupils and wealth necessary to provide modern schools upon an economical basis, and (2) the integration of educational interests, which is "the combination of individuals and groups in such ways that the development of educational activity is facilitated because of a stimulating integration of the educational interests of those individuals and groups." The conditions for community integration are: a common purpose, homogeneity, continuity of membership, facility of contacts, organization, and interaction with other groups. A community is defined as "the people in a local area tributary to the center of their common interests." Thus, a city, town or village center and the tributary thereto would be organized as a community school district.

Those who advocate the county unit recognize the educational merit of the community-district idea up to the point of control, financial support, and providing economically the technical school services now so important a part of the school program. They also maintain that a majority of such communities would not have the children nor the wealth to support an expanded program. Without attempting to add fuel to the fire I would raise the question of whether educational integration would not be stimulated and fostered equally as much or more under the county plan?

The Louisiana Plan

Louisiana is classified as one of the ten states having a strong county-unit system, and is one of the three in which control of both rural and urban schools is vested in the parish (county) board of education. A brief description is here introduced not only for illustrative purposes but because it is probably true that in no other state is this type of local organization so clearly exemplified. (The parish is equivalent to the county in other states.)

The unified parish system may be outlined as follows:

1. The parish school board has administrative, financial and supervisory control over all schools, including cities, except in two instances.

2. The members vary in number from five to twelve, are elected for six years, one third being elected at a regular state-wide school election every two years. The time is different from that of the regular state and parish election so as to remove the school campaign as far as possible from the strife of partisan politics. Members are elected from wards, thus insuring representation to all sections of the parish.

3. The board has power to establish and consolidate schools; to buy and sell sites; to make repairs; to determine the attendance-district lines; to employ all teachers and others as needed in the service; to adopt a budget; to fix salaries; to appoint local trustees to serve as advisers for their respective schools. The board, in fact, exercises general control and management over all parish school affairs

¹This valuable discussion of a "strong" county system of school organization was read before the Rural Life Conference at Ithaca, New York, August 17, 1931.

under the limitations prescribed by school laws of the state. It is a legislative and policy-making body.

4. The parish superintendent of schools is elected by the board and is the executive officer thereof. He is also ex officio secretary and school treasurer. He is the recognized professional leader of the school system and adviser of the board. He is by law clothed with authority to nominate teachers and other employees before their election by the board. He is held responsible for the execution of policies and resolutions adopted by the board of education.

5. A minimum parish-wide tax is levied on all property in the entire parish. Additional parish-wide taxes are levied on vote of the people. School funds for current operation are not divided or apportioned but are kept in one fund.

6. Teachers are employed and paid on one salary schedule.

7. School terms are of uniform length. Some Values of County Plan

A school organization does not, of course, exist for itself but as a means for providing the condition under which modern school facilities may be economically and efficiently maintained. Does the county-wide unit provide these conditions? In evaluating this type of organization there are several outstanding features to which attention is directed.

1. As the unit for school government it is not to be confused with the county as the local civil unit. The two are separate and distinct; each with its own powers and functions.

2. A thoroughly representative democratic form of school government is provided. Control is centralized but is not "taken away from the people" as is sometimes charged. The powers exercised are similar to those of local district or township boards. The difference lies in the

size of the unit over which control is exercised. Another significant difference is the fact that the people of a given community share control of their schools with all the other people of the parish, and they, in turn, participate in the control of all other schools. Thus school-board members represent and are responsible for not only their own wards but the entire parish. This feature is especially significant because what is lost in purely local control is more than compensated by the wider control acquired over the entire parish.

3. Equality of educational opportunity is more nearly realized than is possible under any other form of local organization. Equal facilities are provided and the tax rate for support is uniform.

4. The boundary lines between urban centers and rural areas are removed. Leveling these barriers opens the door wide for the integration of educational interests.

5. Partisan political influences are reduced to bearable limits.

6. Under efficient management large units of organization are more economically operated than small ones. This general truth applies in education as in other fields. The larger school unit will eliminate the waste and dissipation of funds now so common in the smaller units.

7. Men and women of position and high quality, who would not be concerned with the management of small units, will serve on parish school boards. The enlarged responsibility is a challenge and an opportunity.

Better School Boards Possible

8. Experience has proved that board members from the county and from the city stimulate each other to greater effort. Each group takes an interest in the schools which the other represents. It is equally true that each acts as a check upon the plans and wishes of the other. Neither group is willing to permit

the other to inject petty politics and community jealousies into the school system.

9. Under the trained eye of the parish superintendent, who is responsible for the general character and ability of the teaching staff, better teachers are employed. Teachers have greater opportunities for professional growth, advancement, and security of tenure. They are also assured of more equitable judgment in case of trouble of any character. No local "bell-wether" can bring about the dismissal of a teacher for flimsy causes.

We may summarize by saying that centralized power, the more intelligent leadership, and the more highly trained executive officers, supported by the combined social and economic resources of the enlarged unit are the primary conditions under which modern school facilities may be more adequately provided for all children. Consolidation of rural schools, high schools, an enriched curriculum, supervision, programs for special educational services require a new vehicle in the form of a larger local unit. The old machinery of the pioneer period has served its day. It has not kept pace with the drastic and revolutionary changes of modern America. New influences have modified almost every phase of life except the small local school unit. Though it has survived there are many instances of abandonment or modification. The movement will probably require years of effort as most people do not accept changes in social institutions until long after they occur elsewhere. George Bernard Shaw recently said: "The difficulty with most of us is the time lag. I have had a rather rough time because nature constituted me so that when a thing happens I perceive that it has happened. But most people take about twenty years to realize it." These words are often true. They apply in some degree to the case for the larger unit because many will not realize its advantages until long after it has won recognition on its merits.

A Study of School Contests

L. H. Petit, Superintendent of Schools, Chanute, Kansas

This is a period of stock-taking. It is a time when in every business there is a desperate effort to reevaluate policies and procedure. Management and details of all kinds are coming in for the closest sort of scrutiny. In an era such as this only those things that have a known and possible value can hope to survive. All other things will go into the limbo of things forgotten.

Nor are schools any exception to the trend of the times. Administration, instruction, budgets, the whole business of school management, is being subjected to the most intense fire of criticism and analysis right now that has yet been experienced. It is a time when school administrators must more carefully than ever before analyze and weigh and perhaps discard many things hitherto held indispensable.

The general run of school contests is undoubtedly the subject of considerable interrogation at the present moment. Not only are some school administrators beginning to question the values derived from so many contests, but a not insignificant portion of public and press are inquiring as to what it is all about.

Schools seem to be the victims of recurrent fads. These come into being, hold the spotlight for a time, only to be succeeded by something else. Just now it is the contest fad that holds the center of the stage and consumes most of our time, energy, and attention. It has come to the place where the school year is simply one contest after another. When school opens in the fall we begin with football contests. Before the football season is over we are busy with basket-

ball and debate. Then come contests in oratory, in music, in track, in scholarship, and on and on. Some of our more modern and progressive high schools are even establishing fall training camps before school opens. They do not expect to be caught napping.

Is the contest vogue a sign we have failed in accomplishing the thing the schools were designed to do? Are we substituting excitement for scholarship, jazz, and hurrah for value and worth? Some of us are making a mess of the business of trying to equalize educational opportunity. I am not so sure that athletics as generally conducted by our schools is not an admission of failure in our program of physical education. I am not so sure that scholarship contests are not an admission that we have failed in the job of teaching the masses of boys and girls that have come into our schools. We have substituted extracurricular activities and contests in order to cover our failure and to make believe that the schools are still accomplishing the task for which they are maintained.

The Extracurricular Program

How far this idea has gone is evidenced by the fact that so many administrators feel they cannot conduct their schools without the whole extracurricular program. Wide observation of this trend, however, convinces us that we are substituting chaff for wheat—that we are diluting our program of education—for what, nobody seems to know. Not long since we were amazed at the statement of the Dean of the

School of Education of one of our great mid-western universities. In addressing a conference of schoolmen he said, "When it comes to training in character and citizenship there is more value in the extracurricular program than in the curricular." If that is true we ought to stop taking money under false pretenses. We ought to cut out the curricular altogether, admit our failure, and run the school on the extracurricular program entirely. Some of us, however, are still old-fashioned enough to resent the implication.

It may be that as originally conceived some contests had some values as incentives to better schoolwork. If so, it was at a time when they were conducted in a more or less spontaneous fashion with the spirit "may the best man win." But that was before the time when the whole contest program became organized, commercialized, and routinized.

A large part of our overburdened contest program is the result of college advertising. Our colleges have taken over bodily the great American idea of "bigger and better"—especially "bigger." Many of them have lost sight of quality in their overwhelming desire for quantity. Colleges have come to think of their success in terms of larger and larger enrollments. If they can spread in newspaper headlines that there has been an increase in enrollment year after year, Presto! by that sign they are doing good work, and are entitled to larger support. Presidents of institutions, department heads, teachers, all realize that their jobs depend on increasing enrollments.

Not so much is heard about increasing scholarship or increasing worth. Somehow that is not very sensational and is not played up in the newspaper headlines.

The colleges learned it is to the advantage of their enrollment to sponsor a contest to be held under their auspices. It paid to get up a contest, invite in all the high-school seniors possible, make everything attractive, initiate fraternity rush week, use every inducement for them to enroll next fall. The idea worked.

As a consequence contests have been proposed in almost everything. In order to meet the competition each college had to think up something in the way of a contest to attract high-school students to its campus. It is the high schools that have to bear the brunt of this college advertising and it is the people back of the high schools in the local communities that have to foot the bills.

What Do Contests Decide?

Just what does a school contest decide, if it decides anything? The more we see of contests and the more we have to do with them, the more we are convinced that the answer is "nothing." So far as we have pushed contests in Chanute our students have rated well. But after it is all said and done, what do we have? There is the story of the colored man who spent his only dollar riding on the merry-go-round. He had twenty blissful rides, one after another. His irate wife met him as he stepped down from the last ride. She demanded to know where he had been and his reply was that he had been riding. "Yes," she said, "you have been ridin' and ridin', but whar's you been?" Some who have been so busy with contests may have had a long ride, but they haven't gone very far.

There are some definite reasons why contests as they are generally conducted have received an overemphasis in high-school affairs. In the first place a school contest subjects students to an intense nervous strain that is altogether out of keeping with our ideals and philosophy of education and is altogether unnecessary and irrelevant to the training of youth. In these days of overstrain generally, we are not doing a kindness to our youth to keep them continually keyed up to the nervous strain incident to winning contests.

Let me illustrate. In the trophy case of our high school is a beautiful cup. If one looks closely enough he may see by the inscription thereon that Chanute High School won the state contest in 1928. That particular year the high school had a half dozen youngsters of outstanding mental ability. We also had a debate teacher of rather extraordinary ability both as a coach and as a writer of debates. The young people on the team worked incessantly. They were keyed up to a high nervous tension in order to win debate after debate. In the meantime, as far as the rest of the students in high school were concerned, training in debate was a forgotten issue. Six students of the high school were receiving all the time, energy, and attention of the coach. They went to the state contest, sponsored by the University, and won it. It was paraded through the newspaper headlines that Chanute was the state champion. The inference was that we were doing an extraordinary job of teaching debate. This was not exactly true. But we had the state cup as evidence — of something. During the rest of the spring we had these six students and their teacher verging on the point of a nervous collapse. The strain had been terrific. The cup and the fleeting state championship were not worth the cost.

False Idea of Values

School contests as they are generally conducted set up a false idea of values. The primary idea of the contest is to win. In most cases the one and only thing held up to most

THE TEACHER AS PUBLIC SERVANT

To me the teacher is the most important public servant in the world today. It is she that bridges the chasm from the home circle of the pupil to his contact with the world about him. She must be a past master in disinterested public service and uprightness in every sense of the term. She must know the fundamental principles underlying hospitality, tenderness, and love. Her thinking must be largely idealistic and she must hope through the inspiration of this idealistic thinking to lead the plastic minds of the youth to a level of aspiration above that in which they move today.

She must think of the pupil as the sensitized plate of the camera, waiting for the skill of the teacher to develop it, and to catch, and to fix certain truths, so that they will remain deep and lasting, and not just simply fade away. — George C. Cole, State Superintendent, Indiana.

students participating in contests is to win — anything to win. It is little less than disgrace to lose. The pressure placed on teachers to produce winning groups is tremendous. Sometimes teachers are made to feel that their very job depends on the success of their students in a contest. Some coaches and some teachers are sorely tempted to resort to questionable methods in preparing their contestants. Not a few of them are able to withstand the temptation. We have known cases in which the tests were secured in advance and children studied them while authorities in other schools were either too honest or not alert enough to do it.

Too frequently the desire for a school to win a contest results in neglect of those students who really need attention. This is a very common fault. It is particularly noticeable in the field of physical education and athletics. In our schools we have boys and girls who are anemic, who are stoop-shouldered, whose carriage is faulty, who are undernourished, who need corrective treatment in physical education and training. Do they get it? Well, not quite! There isn't time. The director of physical education is usually the coach of the athletic teams. His teams must win. If they win he must spend all his time with that small group of students who make up his teams and who are already husky and well developed physically. The other poor youngsters who don't know enough to grow strong can sit on the side lines and yell. The same thing is true in contests in music and debate and scholarship. And we call it education!

The general contest plan results in a diluted school program. There are just so many hours in the day, just so many teachers on the force, just so many things that can be done. If it is necessary that we give up a large amount of our time to promoting contests, it just naturally results that we cannot do the thing the schools were originally designed to do. It is not much wonder that so frequently the public criticizes our output and the fact that somehow so much of the training we give these days seems shallow and insincere.

Raise a Moral Problem

These various and sundry contests bring about a moral problem which I submit is one of grave responsibility for the schools to assume. When it becomes necessary to transport a large body of young boys and girls from home to another city for a day or two and a night or two, there is just more of a responsibility attached to it than we ought to be called upon to assume. "Oh," you may say, "there are chaperons along." True. But what good is one chaperon in a group of forty or fifty or sixty boys and girls scattered hither and yon?

Again, every contest needs to be financed. I know from personal contact and from conversation with a great many principals and superintendents that the burden of extracurricular finance is getting to be more burdensome every year. A school that is able to get through at all is lucky. Schools are becoming to a greater extent every year money-raising institutions. There are too many activities that need to be financed. Every contest costs its quota. It is a nickel, a dime, a quarter, or a dollar almost every day. Small wonder people complain of the cost of education. There are so many things that have to be financed that the school year is one financial campaign after another.

This year the public schools are facing what probably is the most acute financial situation they have ever faced. School administrators are having the hardest fight of their lives to maintain their budgets. Many superintendents have told me how closely they must pare every item of expense to meet the public clamor for reduction of taxes. I think it ill behooves us to take on at this time unnecessary and useless items of expenditure to add to our already burdensome financial troubles. In a time of storm a good sailor trims his sails. In this time of financial and economic storm, it will be the smart school administrator who trims his sails accordingly.

We maintain that the school contests as they are usually conducted are undemocratic. They represent a selective process. They are not for the many, but for the few. The ideals of our American institutions of education set up an equal opportunity for every boy and girl. The ideals of a contest set up the coaching of the few at the expense of the many.

Opposes Philosophy of Education

Again, we submit that the contest idea is opposed to our philosophy of education. If we can believe what our learned leaders and psychologists say, education no longer consists of memorization of facts. Of vastly greater importance is the capacity to find, to face, and to use facts — to adjust one's self to different persons, to changing situations, and to social and economic progress. I do not see how we can square our philosophy with the general trend of school contests.

For a long time the writer has felt that he is very much alone in his attitude of reserve toward the general run of school contests. He has been surprised to learn, however, how many of his fellow superintendents share the same views. It is one thing to oppose a situation, but another thing to correct it. Many administrators feel that because their neighbors indulge in certain forms of school contests, they must push them too or be considered old-fashioned. It has become a sort of a vicious circle which no one seems able to break.

If one can judge by certain signs, however, there is a reaction already under way. Just recently the junior-high-school principals in the central part of our state have agreed to eliminate interschool contests of every sort, athletic or otherwise, and confine their attention to projects with their own schools. A number of superintendents have told the writer that in the future their schools will not participate in state-wide music contests. Many leading schools are withdrawing from the state-wide scholarship contests as promoted by certain institutions. When administrators as a group can agree on a basis of limitation of contests a great forward step will be taken toward correcting many of the evils that now exist.

Nor is this questioning attitude toward contests confined to schoolmen. A number of newspaper editors have recently discussed the matter in their columns, expressing the hope that steps may soon be taken to limit the excessive indulgence in contests in which the schools are now engaging.

(Concluded on Page 94)

A Self-Rating Scale for Supervisors of Instruction

John W. Lyda and J. R. Shannon, Indiana State Teachers College, Terre Haute, Indiana

It can be accepted without proof that there is still room for the improvement of supervisors. Many, like the writers of this article, began their work with little or no special training in the field of supervision except that which they gained as classroom teachers. The rating scale presented here has been prepared to meet the needs of such supervisors in service for a reliable check list which they may use for self-analysis and self-improvement.

The authors of this instrument have sought to avoid what seems to be a very serious weakness of many efforts in this field. Most scales heretofore produced are based upon the individual judgments of their authors. The present scale, however, is the result of extensive investigation and research. It represents the composite judgment of more than three hundred leaders in the field of supervision.

Beyond doubt the various qualifications, policies, and activities of supervisors vary in value. Some are more important than others. Former scales have not recognized this fact. The authors of the present instrument have taken this fact into consideration and have attempted to determine the relative value of the various items by research. The determination of the items of the scale and their evaluation by the method of massed opinions rather than by the opinion of one person should increase the reliability of this scale as an instrument to be used for self-analysis and self-improvement.

Widespread Basis of Study

Since there is no practical objective method of determining the desirable qualifications, policies, and activities of supervisors, one must depend upon expert opinion. The opinions upon which the items of this scale are based were compiled from five hundred sources. All of these were found in recent books in the field of supervision, articles in leading professional magazines, and the unpublished manuscript of the second-named writer of this article. The statements thus compiled fell logically into groups relating to qualifications, policies, and supervisory activities. The supervisory activities, in turn, fell logically into groups relating to visitation, diagnosing teaching situations, individual conferences, demonstration teaching and directed observation, teachers' meetings, and other activities.

The scale was then printed as a questionnaire. Copies were sent to each of the fifteen hundred members of the Department of Supervisors and directors of Instruction of the National Educational Association and to a few other persons who had received special training in supervision. These persons live in every state of the Union and the District of Columbia. Persons receiving the questionnaire were requested to rate each one of the various items as being of most, medium, or least importance as qualities of a supervisor in promoting the professional growth of teachers. Five hundred and twenty-five supervisors complied with that request. Of that number, three hundred rated the items according to directions. The replies from the three hundred were used in evaluating the items of the scale.

Statistical Rankings of Points

Statistical treatment of the rankings submitted by the three hundred supervisors substantiated the validity of a procedure previously used by other investigators, namely, that of using only the rankings of most importance, and ceasing to consider rankings of medium and least importance. The several items of the check list, then, were assigned values in proportion to the number of rankings of most importance that they received. A total of one thousand points

was divided between the hundred items in the portions indicated, but in no case were fractional values used. The point value of each item was determined by giving the item a number which bears the same relation to 1,000 that the number of times the item was rated as being of most importance bears to the total number of such ratings given to all the items of the scale. The total number of such ratings received by all the items of the scale was 15,758. Therefore, each single rating is worth $1/15,758$ of 1,000 points, or .0635 points. The point value of each item of the scale was calculated by finding the product of the number of times that item was rated as being of most worth and .0635. For example, the first item of the scale received 279 rankings as being of most importance. By applying the method explained above, its point value was found to be 18.

To make the scale more personally applicable to the user, the statements were written in the form of questions. The desirable answer to each question is positive. The person using the scale should write "yes" as the answer to those questions where he can honestly do so and "no" where he cannot. In his efforts to improve by changing the negative answers to positive ones the items of greatest point value should be the first object of a supervisor's endeavor.

SELF-RATING SCALE FOR SUPERVISORS

Qualifications of the Supervisor . . . 167

1. Has the supervisor such qualities of leadership as courage, resourcefulness, willingness to assume responsibilities, aggressiveness, frankness, enthusiasm, foresight, common sense, and originality? 18
2. Has he such desirable physical attributes as good health, a pleasant voice, and a neat appearance? 14
3. Has he such qualities of integrity as sincerity, honesty, reliability, firmness, poise, self-control, and dignity? 17
4. Does he possess qualities conducive to social adjustment as kindness, loyalty, friendliness, courtesy, open-mindedness, fairness, humility, tact, and patience? 16
5. Is his work marked by thoroughness, perseverance, and accuracy? 14
6. Has he had wide and extended successful experience in teaching under skillful supervision? 8
7. Has he broad professional training especially in the devices and technique of supervision? 11
8. Has he a liberal education in addition to a broad professional training? 12
9. Is he a master of the technique of curriculum making and revision? 7
10. Is he skillful in diagnosing teaching difficulties and in finding remedial measures? . . 17
11. Is he thoroughly familiar with measurements in education? 8
12. Does he know intimately the worth-while researches in education and also the latest and best professional literature? 12
13. Is he familiar with the best theory and practice of teaching and school management? 14

Policies of Supervision . . . 125

14. Does the supervisor regard supervision as a service agency to teachers? 12
15. Does he seek to improve the pupils by improving the teaching? 14
16. Is the supervision scientific? 10
17. Is it coöperative and democratic? 16
18. Has the supervisor faith in the ability of all teachers to grow to the extent that he seeks to save the poor teacher instead of dismissing her? 9
19. Is the individuality of teachers recognized and respected? 16
20. Is the supervision unified with the child as the center? 15

21. Have the supervisors and the teachers a basis of common knowledge and common point of view concerning the school situation in which they are working? 11
22. Are the worth-while contributions by teachers extended to other teachers of the system with acknowledgments? 11
23. Is the supervisor's program fully rounded and not limited to just some of its parts, such as stenographic reports, bulletins, inspection and lesson plans? 11

Supervisory Activities . . . 708

In Visitation 143

24. Are visits usually announced and the lesson to be observed mutually agreed upon? . . . 3
 25. Does the supervisor reduce the time usually wasted in interviews, clerical duties, and petty routine to the minimum so that he may have time for more important duties? 11
 26. Are the supervisor's visits based upon a preliminary survey? 5
 27. Are the objectives agreed upon by the teacher and the supervisor? 10
 28. Is the program of supervision outlined in detail and not haphazard? 11
 29. Are visits by the supervisor made on call also? 9
 30. In corrective supervision, does the supervisor give most time to the weaker and inexperienced teachers? 10
 31. In creative supervision, does he begin first with the best and the more experienced teachers? 8
 32. Does the supervisor remain through a full cycle of recitation and study when visiting? 8
 33. Do creative supervisory projects run throughout the year? 9
 34. Does the supervisor study the technique of teaching the subject to be observed, the teacher's lesson plan, his notes made on former visits to this teacher, and the cumulative records of her pupils before making a visit? 6
 35. Does he conduct a systematic follow-up of each teacher? 11
 36. Does he enter, remain, and retire from a classroom inconspicuously when visiting? 9
 37. Does he follow the routine of being recognized by the teacher just as the pupils do before breaking into a recitation? 6
 38. Does he use a code of silent communication with the teacher while observing? 6
 39. Are teachers criticized adversely only in private? 13
 40. Does the supervisor refrain from "spying" on the teachers? 10
- #### In Diagnosing Teaching Situations . . . 102
41. Is the teaching more than the teacher the center of the attention of the supervisor when diagnosing? 15
 42. Is the supervisor familiar with the subjects, activities, and traits most in need of supervision? 13
 43. Is the judgment of the supervisor concerning a teaching situation held in suspension until analysis and diagnosis are complete? 14
 44. Does the supervisor note the reaction of the pupils to the efforts of the teacher when visiting? 14
 45. Are the number of pupils who seem to be giving attention during each major step in procedure recorded? 4
 46. Does the supervisor record the amount of time devoted to each major step in the procedure? 2
 47. Is a stop watch used in measuring some specific things, such as the amount of time the teacher spends in talking? 1
 48. Does the supervisor use survey and diagnostic tests as devices in diagnosing? . . . 13
 49. Does he avail himself of the cumulative records of the pupils? 10
 50. Are teacher-improvement sheets or check lists used? 5
 51. Does the supervisor take notes on a two-column arrangement with the teaching procedures in one column and the criticisms

- and suggested remedial measures in the other? 3
52. Does he reorganize running notes before holding a conference with the teacher and before giving her a copy of the notes?..... 8
- In Individual Conference...121*
53. Does he keep office hours for those desiring help? 14
54. Are individual conferences held in the teacher's own room?..... 5
55. Are both positive and negative constructive criticisms given? 14
56. Are all criticisms based on facts?..... 13
57. Does the supervisor take up only one or two big topics in a single interview?..... 10
58. Does the teacher take a prominent and an active part? 12
59. Is she encouraged to give her point of view? 16
60. Does the supervisor give the teacher a copy of his supervisory notes at the end of the interview? 5
61. Is the teacher given an opportunity to ask questions? 14
62. Does the supervisor plan the lesson with the teacher?..... 9
63. Are the points made in the interview summarized at the close?..... 9
- In Demonstration Teaching and Directed Observation...79*
64. Do visitation, conference, and demonstration proceed in cycles?..... 4
65. Is the demonstration teaching done under as nearly typical schoolroom conditions as possible? 15
66. Are different teachers rather than the same one called upon to do the teaching at different times?..... 11
67. Do teachers rather than the supervisor do the demonstration teaching?..... 8
68. Are demonstrations and directed observations used so frequently that no one feels embarrassed when called upon?..... 8
69. Do the supervisor and the teachers agree before the demonstration upon the characteristic to be made to stand out in the demonstration? 11
70. Is this characteristic made to stand out during the demonstration?..... 8
71. Do the supervisor, the teacher teaching, and the teacher or teachers observing hold a conference after the demonstration?... 14
- In Teachers' Meetings...76*
72. Are the meetings held primarily for giving instruction in supervisory projects?..... 8
73. Are the teachers who attend a meeting a homogeneous group?..... 10
74. Is the supervisor guided by the fact that he is not holding a supervisors' but a teachers' meeting?..... 12
75. Are social meetings held principally for rapport? 4
76. Are meetings held from two to four weeks apart? 4
77. Are they from 45 to 90 minutes long?.... 5
78. Are they held after school the forepart of the week?..... 4
79. Are the programs prearranged and pre-announced? 12
80. Are mimeographed announcements and programs prepared and distributed to the teachers long enough before a meeting to enable them to prepare adequately for it? 11
81. Is a summary of the discussions of the meeting printed and distributed to the teachers? 6
- In Other Activities...187*
82. Are bulletins issued principally for giving instructions in supervisory projects?..... 8
83. Do they contain matter of general interest only? 4
84. Are they issued no oftener than every two to four weeks?..... 3
85. Are they short and to the point?..... 11
86. Is correct and effective English used?..... 13
87. Are they democratic and never of a "high pressure" type?..... 12
88. Does the supervisor encourage the teachers to be on the alert and to employ such devices as self-analysis for their improvement? 13
89. Is intervisitation among teachers arranged for and made profitable?..... 13
90. Does the supervisor encourage organization among the teachers for their professional improvement? 10
91. Does he incite competent teachers to carry on researches either as individuals or in groups? 14
92. Does he counsel those engaged in such projects? 12
93. Does he lead and counsel the teachers in the making and the revision of the curriculum? 10
94. Does he lead the teachers in the making of teacher improvement sheets or check lists? 6
95. Does he issue reports of researches to his teachers? 8
96. Does he promote researches by the research department or conduct them himself for the benefit of his schools?..... 9
97. Is the directed reading for all teachers only along lines specifically appropriate to the supervisory projects under way?..... 4
98. Are individual teachers given reading references designed to meet their individual needs? 13
99. Does the supervisor encourage teachers to make use of such out-of-school agencies as attending extension classes, summer school, high-class entertainments and worth-while exhibits to improve their teachings?..... 13
100. Does he make use of such administrative devices as exhibits of genuine pupils' schoolwork, providing adequate equipment and supplies and a salary schedule for the improvement of his teachers?..... 11

The Chronic School-Board Meddler

"It is not an uncommon thing to find a board of education afflicted with a member who is merely a tolerated bore and nuisance," recently said the president of a board of education of which he had been a member for many years. "And I have never yet found a cure for that kind of a nuisance. He is simply incurable."

"I know the type. He is talkative, irritating, and meddlesome, expresses opinions and conclusions without knowing the facts, and is always getting things wrong end to.

"The type usually asserts itself when newly chosen members take their seats on the board of education. There is the new member who comes with preconceived notions, convinced that everything is wrong, and that reform is highly needed. Many of the novices and would-be reformers get their wings clipped during the first year of board service, and then calm down to a rational order of things.

"There are those, however, who never learn

the real whys and wherefores of the school administrative service. Their case has become chronic. Being limited as to vision, narrow in mental compass, ignorant as to the contacts and relationships which govern the several factors of a school system, they continue to harass, to obstruct, to annoy. In their eyes the small trivial thing becomes a mountain, while they remain blind to the vital issues in hand.

"I have seen a school-board membership patiently submitting to the antics of an incurable fellow member. They realize that he knows nothing of parliamentary procedure, attempts speeches without knowing anything about the art of public expression, is reckless in his comments and observations, and remains unconscious of the fact that he is a public nuisance.

The embarrassments which this type of school-board member may create proceed fre-

quently from the most trivial and insignificant causes. But more frequently from a peculiar conception of the scope and importance of his office. He frequently proceeds upon the belief that in order to have an efficient school superintendent you must jump upon him once in so often. Humiliate him by telling him where to get off at, and then you get service. That's the stuff!

"He butts in on the province of the superintendent, principals, and teachers, messes into the differences that arise between parents and teachers, seeks to further the interest of business friends in school patronage, favors certain teachers whom he likes as against those he does not like, wants an increase of salary for a janitor friend, etc. In brief, he heads into things which are not within the scope of his office."

"A presiding officer may do much to call the irrational member to order. Yet he must have the coöperation of his associates. There are times when drastic measures must be employed to squelch the troublemaker. The superintendent, too, who sometimes becomes the target should arise and speak his mind and resent the mouthings of the board nuisance.

"I do not have in mind here the new member who makes a few breaks because of inexperience. He soon realizes that he has something to learn. After a few bumps he becomes quiet and concludes that he must get a better knowledge of the school system and a better grasp upon his own job. Such a recruit has in him the making of a highly capable school-board member.

"My comments deal with the loud-mouthed, opinionated, arrogant individual who will never learn the proprieties of a situation. From the time he enters a board of education he is a nuisance and remains one until the end of his official career. As I said at the beginning there is no cure for that kind of a nuisance. He remains a meddler from first to last."

PAY-AS-YOU-GO SCHOOL FINANCING

In 1924, Shreveport, La., a city of 80,000 people, decided to discontinue the issuance of bonds and to finance the future buildings on a cash basis. Prior to that time bond issues were employed. The assessed property value of the district is \$120,000,000, and a special tax of one and one-half mills was authorized for five years. This yielded \$180,000 annually for new school buildings.

E. W. Jones, superintendent of schools, in discussing the application of the plan says: "From the proceeds of the first three years we erected a high school, and made additions to two elementary schools. The proceeds of the past two years were used for the erection of two grammar-school buildings. The board reached the end of the five years with ample provision for all school children of the city, and a balance of \$20,000 on hand.

"In December of 1930, we called upon the taxpayers again to renew the tax for only one mill, dropping the half. We have made a five-year program which we are sure can be met by this amount, as every dollar collected goes to buildings and not to interest.

"Besides saving the tremendous amount formerly spent for interest on bonds, the plan has met with such universal approval among the taxpayers that the revoting of the tax periodically meets with no opposition; and we are confident that our income on this basis will provide for a normal increase, as it has since the institution of this plan."

Shreveport has no school board of its own. Its school system comes under the control of the parish (county) board of education, which consists of thirteen members, and on which Shreveport has representation.

THE AMERICAN School Board Journal

EDITORS:



WM. GEO. BRUCE

WM. C. BRUCE

A Decade of Schoolhouse Construction

IN noting the general trend in the field of schoolhouse construction, as exemplified throughout the United States, one must soon come to the conclusion that the present disturbance in the business world has not as yet affected the schoolhouse construction in any material degree, as may be seen from the following data:

In the year 1919 the total amount expended for new school buildings was \$110,000,000. Last year, namely, in 1930, the expenditure reached the sum of \$366,680,200. The figures for the years between 1919 to 1930 constitute an interesting study in that they show an increased activity following the world war, which had delayed the bulk of the pending schoolhouse projects.

Thus, the total expenditures for the period between 1919 and 1930, bring the following figures into play: 1920, \$172,298,000; 1921, \$243,933,000; 1922, \$303,346,000; 1923, \$272,530,000; 1924, \$367,438,900; 1925, \$423,203,700; 1926, \$381,078,200; 1927, \$379,795,700; 1928, \$398,997,300; 1929, \$381,908,000.

It will be noted that 1925 was the peak year when the construction figures exceeded considerably the \$400,000,000 mark. Between the years 1924 and 1929 the figures were higher than those enumerated for 1930. It becomes evident here that for a full decade there was an effort to catch up on deferred building projects.

For the first six months of the present year, 1931, the expenditures for new schoolhouse construction reached the sum of \$129,754,800. In view of the bond issues, which were negotiated for the same period, amounting to \$142,444,071, it would seem that the total volume of new construction for the year measured in money values would fall somewhat below that of the previous year.

During the twelve years above enumerated the total sum of \$3,801,209,000 was expended, or an average of \$316,774,166 each year. Thus, the year 1930 with a volume of \$366,680,000 is still above that average while the figures for the first six months would indicate a decline in the total for this year.

The volume of money expended for new school buildings in any one year, after all, does not tell the whole story. With a reduction in the cost of labor and material the smaller investment may produce more school buildings than the larger. Thus, for instance, the investment in 1925 of \$423,203,700 produced 58,799,900 square feet of schoolhousing, while the investment in 1929 of \$381,908,000 produced 60,644,000 square feet.

From this statement it must be reasoned that while the money expenditure for 1931 may be several million dollars less than last year, the actual volume of new schoolhousing may be more. The number of projects together with the square feet of floor space constructed may be greater while the actual expenditure may be less.

The decline in the planning and construction of new school buildings can only be temporary. The growth in the school population continues at the normal rate and added housing must be provided sooner or later. This was amply demonstrated after the world war when it was found that the three years' postponement of schoolhouse construction had to be followed by increased efforts.

The outstanding fact remains that building operations can be carried on more advantageously now than they could have for some years past. Money can be obtained at a low rate of interest, property valuations are free from postwar inflation, and the cost of labor and material has been considerably reduced. Thus where the property valuations permit, and the immediate or prospective need of more school facilities is apparent, there can be no good excuse for postponement or delay.

Board-of-Education Proceedings and Minutes

THE impression that the recorded proceedings of a school governing body constitute merely a perfunctory act which has no particular value or meaning, except as a reference work of minor importance, is quite prevalent. It is not until an issue arises in a court of law on past transactions that the recorded proceedings become a decisive document. It is not until disputes arise as to past and future policies that the records become a clarifying and guiding instrument.

The legal aspects are predominant. The board of education is a legislative body. Its deliberations and conclusions have the effect of laws which may affect many persons and interests. The board, therefore, must recognize itself as an entity whose acts express definite policies and departures. Its movements must be along legal lines, both in the matter of procedure and the objectives to be attained.

It needs no argument to hold, as a first requisite, that the proceedings of an official meeting of a board of education must be recorded with accuracy and completeness. While custom and law demands that such records be kept, their utility and value cannot be questioned.

There are, of course, several approaches to the manner of recording the proceedings of a deliberative body. The one adheres to the conventional form, reduced to a bare record of the resolutions and motions offered, and the vote taken thereon. Another may reduce to writing the discussion in the main engaged in, but also aim to reflect the arguments pro and con through which the ultimate conclusions are reached.

Thus we find that the proceedings of the Boston school committee (board of education) are reported with almost extreme completeness. A member rises to state his position, discusses the project in hand as he understands it, counters or refutes the statement made by another member, or explains his vote. Pertinent questions are asked and answered, all of which are faithfully reflected in the printed proceedings.

While this method of recording the deliberations of a board of education appears somewhat cumbersome, and in spots superfluous, it also has its advantages. It reflects the arguments as well as the conclusions, and describes the route which a project has traveled, from its initial stages to its final consummation.

While it may be contended on the one hand that members will be encouraged to read themselves into the record, it also remains that they will exercise care as to the ideas they advance and the manner in which they may express them.

The larger number of the boards of education whose proceedings are officially printed, either in pamphlet form, or presented in the columns of a local newspaper, hold to the conventional form. While communications, committee reports, and resolutions are printed in full, all the discussions, which attend the deliberations, are omitted.

The fact remains that those intrusted with the recording of board-of-education proceedings must be fully impressed with the legal importance of their task. Serious litigation has followed because the records were loosely or vaguely drawn, or where such records violated the fundamental law, or ignored obvious and pertinent situations.

Board-of-Education Member Entanglements

THE member of a board of education who has some years of experience behind him knows how easy it is to fall into entanglements which are not altogether without their embarrassing results. The conscientious and zealous member, who is ambitious to render efficient service, is inclined to listen to the gossip which comes to him regarding school affairs. He wants to be informed on what is going on in the school system. There may be some things which he ought to know and which do not come to him through the regular administrative channels, but many more of which he had better remain in ignorance.

It is exactly here where the trials and tribulations of a board member begin. He has listened to a parent that is at loggerheads with the teacher regarding an allegedly incorrigible son, he has heard the story of a teacher who disagrees with her principal, of the

teacher who ought to be fired, of the janitor who ought to have a raise in pay.

The member who ignores the several relationships upon which a school system must be governed, and takes things into his own hands will soon find himself involved in a peck of trouble. There is an orderly way for the adjustment of difficulties and the solution of every problem. He who messes into the differences which arise between parent and teacher and between teacher and her superiors, and seeks to alleviate the grievances which this, that or other person may have against those in charge of the schools, will soon come to grief.

The board-of-education member who creates much trouble for himself and others, and usually without malicious intent, is he who goes beyond the scope and function of his office. He fails to recognize the rights of his fellow members, or the prerogatives of superintendent, principal, or teacher. He unconsciously blunders into situations only to aggravate them and to ultimately embarrass himself. He hinders the progress of administrative deliberations and taxes the patience of his associates.

The circumspect and informed member of a board of education is conscious of the scope and function of his office. He knows that his job is centered upon problems, policies, and projects to be considered and adjudicated by the collective body. He knows that he is not supposed to be bothered with the minor details and trivialities of a school system. And finally, he is thankful for the fact that he is not called upon to interfere with the established order of things as applied to administrative contacts and relationships.

Members of boards of education have frequently found their task irksome and troublesome, not because the well-defined duties of their office made it so, but because they assumed responsibilities not contemplated within that office. Those who avoid entanglements, refuse to meddle with matters outside of their province, and confine themselves to the things that come legitimately within the scope of their office will avoid unnecessary troubles and embarrassments and find the task assigned to them most acceptable and agreeable.

Regulating the Recruiting of the Teaching Service

THE number of professionally trained teachers in this country who are out of positions is greater at this moment than it has been at any time in the history of the public-school system. It exceeds by far the hundred-thousand mark. School administrators everywhere are familiar with the situation and have not only sought an immediate solution of the problem, but have also taken into consideration measures to regulate the supply of professional service in the future.

The enormous excess of trained teacher talent suggests a waste of energy, time, and substance. Someone is the loser. The state provides the training and the individual receives it. The one invests the taxpayers' money to recruit the teaching service, while the other invests time and labor to prepare for that service.

The expedients which have been offered here and there have in the main proved futile. The schools must be adequately manned with professional workers, but no school system can consistently create new positions merely to accommodate someone who is out of employment. Nor can those now in the service be asked, as suggested in several cities, to relinquish a part of their employment and emoluments for those who are out of a position.

The adjustment, or more properly speaking the relief, has more-over been found in quite another direction. The young man or woman graduate of a professional school who finds himself or herself out of a teaching position will gradually enter other employment. Thus, thousands of professionally trained teachers are now filling positions in the industrial and commercial world. Thereby the business executive has secured a more highly educated employee than he would otherwise secure. On the other hand many thus employed have abandoned the thought of ever attempting to enter the teaching service.

But these adjustments are merely local and individual and do not solve the problem itself. A higher educational training may have its value in various channels of activity but the actual teacher preparation may have little application in the field of commerce and

trade. The waste is apparent just the same. Both the state and the individual have invested money and effort in something which cannot be utilized to the extent originally contemplated.

If a surplus of teacher talent is to be obviated, the supply-and-demand problem must be met at the source, namely, at the point where young persons determine upon the preparation for a professional career. The mode and manner of regulation at this point must be left to the educators and experts in charge of the teacher institutions.

In the field of law and medicine the number of entrants has been regulated by the exaction of higher standards of admission, and the introduction of longer and more exhaustive courses. No doubt, the exaction of a similar policy regarding the teaching profession will bring about the desired reaction. The very fact, too, that a profession is known to be overcrowded will have a deterring effect upon those who contemplate entering upon the same.

Therefore, if any advantage is to accrue to the schools of the country as the result of an acute teacher surplus, it must not be in the direction of a lower salary schedule, but rather in the direction of higher professional standards.

School Contracts and School-Board Members

THE laws which forbid members of boards of education to become financially interested in business transactions with the school systems over which they preside are recognized quite generally throughout the United States. Some are more severe than others, but the purpose in all of them is to forbid public officials from using their official prestige for private gain.

During the past few months some distressing situations have arisen. Members of boards of education in several sections of the country found themselves in trouble because they had thoughtlessly violated the law in selling something to the school system with which they were officially connected. In no instance did the school system suffer, but there are laws which regulate things and these laws must be obeyed.

And yet the several laws do not define clearly the dividing line between business relations which may be immediate and those of more remote interest. It may be quite clear that the member of a board of education who is in the coal business cannot consistently sell coal to the schools. Likewise the board member who is in the insurance business cannot accept insurance on school buildings under his administrative control.

But there are instances where the law, if rigidly observed, would lead to some ridiculous situations. Let us take the case of a banker who happens to be a member of a board of education. His bank is the depository for school funds, while the teachers as well as the general public patronize the bank.

Then there is the druggist who is a member of the school board. His patronage may include the teachers and pupils as well as the general public. He must not sell to the school system as such, and be paid out of the school treasury. The law says so, and yet, is it not a fact that his official prestige as a board member is tipping the scales of business in his favor? Can anybody forbid him to deal with the school public?

In one city a sensational charge was recently made against a school-board member because he had illegally profited by a school contract. He was unconscious of any guilt when it was proved that a manufacturing concern, in which the board member was a small stockholder, had secured a contract on a competitive basis with the local school system. True, the board member may in some minor way have profited in the transaction, but the contract had to go to the lowest bidder. Was anybody the loser in that transaction? Where was the line between a legal and an illegal transaction to be drawn?

It is evident that the laws governing the subject ought to be subjected to some refinements in order to determine the rights and duties of board-of-education members more clearly. The citizen who serves as a member of a board of education may be financially interested in various local enterprises who do business with the school system and yet be quite innocent as to any selfish or mercenary purposes. The laws on the subject ought to be clear and unmistakable.

School-Bond Interest Rates Increase

Harold F. Clark, Ph. D., New York City

Interest rates on school bonds continued to increase during the month of August. The net interest rate on all school bonds sold during August is 4.21 per cent. Since May, in which month the school-bond index dropped to the lowest point of the post-war period, school bonds have been sold at prices which yielded increasingly larger interest rates for each of the past three months.

Despite the low interest rate, the long-term bond issue was oversubscribed for by a wide margin.

In contrast with the financial difficulties of England, Germany, and other countries, it is pleasing to find the United States Government able to conduct its borrowing at such low interest costs. The rate of 3 per cent, is the lowest rate of the entire post-war period for

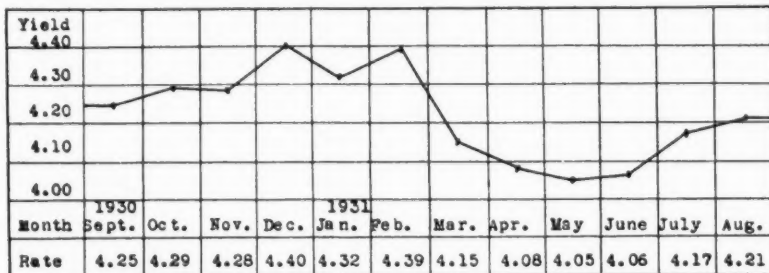


TABLE I. AVERAGE PRICE OF ALL SCHOOL BONDS SOLD DURING THE MONTH

Total state and municipal financing during August was \$75,101,000, the smallest August total for any year since 1926. However, the total for the eight months ending August 31, \$1,017,000,000, is the largest figure recorded for the first eight months of any year since 1924. The increase in the net interest rates of all municipal bonds from July to August was .02 per cent as compared with the .04 per cent increase in school-bond interest rates.

School-bond interest rates are likely either to remain at the present level or to drop to lower levels in the near future. This is likely for two reasons. First, the poor showing of most of the industrial bonds and the general lack of confidence in second-grade bonds is creating a greater demand for gilt-edged securities such as most municipal bonds are. Secondly, the fear of possible increase in income-tax rates will cause investors to turn to tax-free municipal bonds in greater numbers.

1. School bonds during the month ¹ of August...	\$ 9,600,000
2. All municipal securities sold during the year (to date).....	1,026,000,000
3. All school bonds outstanding (estimated).....	2,269,000,000
4. Average yield of all school bonds outstanding (estimated).....	4.61%
5. Yield of school bonds of ten large cities.....	4.10%
6. Yield of United States long-term bonds.....	3.11%

¹The monthly total of school bonds does not include all the bonds issued in the month, due to the difficulty of obtaining the yield on some of the issues.

The outstanding news of the month in the bond market is the large piece of financing by the United States Treasury. A \$300,000,000 issue of twelve-month certificates of indebtedness was successfully disposed of at a rate of only 1½ per cent. Within one day, this issue was subscribed for more than four times the amount offered. At the same time a long-term bond issue of \$800,000,000 to run 24 years was offered at an interest rate of 3 per cent.

Year	School ²	Municipal ²	All Public and Private ²	Year	Municipal ²
1929	230*	1,431	10,194*	1929	4,67*
1928	218	1,414	8,050	1928	4,45
1927	266	1,509	7,776	1927	4,49
1926	260	1,365	6,344	1926	4,61
1925	323	1,399	6,223	1925	4,58
1924	288	1,398	5,593	1924	4,26
1923	206	1,063	4,303	1923	4,303
1922	237	1,101	4,313	1922	4,81
1921	215	1,208	3,576	1921	5,18
1920	130	683	3,634	1920	5,12
1919	103	691	3,588	1919	5,04
1918	41	296	14,368	1918	4,90
1917	60	451	9,984	1917	4,58
1916	70	457	5,032	1916	4,18
1915	81	498	5,275	1915	4,58
1914	42	320	2,400	1914	4,38

¹By special permission based upon sales reported by the Commercial and Financial Chronicle.

²Units \$1,000,000.

*Not final.

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long-term Federal bonds. These bond issues point to the enormous surplus of short-term funds and idle money awaiting profitable long-term investment as soon as confidence in the bond market is restored. It is estimated by reliable financial authorities that there is \$800,000,000 in hoarded currency at the present time. This hoarding is largely the result of the withdrawal of money from savings accounts due to fear of bank failures.

Month	Rate	Year	Rate %
Sept.	3.53*	1930	3.397
Aug.	3.34*	1929	3.644
July	3.32	1928	3.437
June	3.30	1927	3.464
May	3.31	1926	3.544
April	3.38	1925	3.797
Mar.	3.39	1924	4.010
Feb.	3.40	1923	4.298
Jan.	3.33	1922	4.301
1930			
Dec.	3.34		
Nov.	3.32		
Oct.	3.34		

¹Taken from Federal Reserve Bulletin.

*Not final.

The lowest net interest rate on school bonds recorded during the month of August was again issued by a small Massachusetts community. This rate, 3.24 per cent, is actually lower than the average yield on long-term Government bonds as reported in the *Federal Reserve Bulletin*. The school districts in the State of Massachusetts probably enjoy the lowest net interest rates of any state in the nation. This is shown by the fact that out of the five lowest school-bond interest rates during the month of August, four were Massachusetts communities.

Date	Average Price of 404 Stocks (1926 Average=100)	Average of 60 Bonds	Average Yield of 60 High-Grade Bonds
1931			
Sept.	95.2*	98.2*	4.52*
Aug.	95.4	98.5	4.50
July	98.2	99.4	4.44
June	95.1	99.4	4.45
May	98.0	99.7	4.43
Feb.	119.8	99.4	4.44
Jan.	112.3	99.6	4.43
1930			
Dec.	109.4	97.8	4.55
Nov.	116.7	99.1	4.46
Oct.	127.6	100.0	4.41

¹As reported by Standard Statistics Company, Inc. Used by special permission.

*Not final.

Table IV indicates a slight increase over July in the yield of long-term Federal Government bonds. Table V shows that stock prices have almost dropped to the year's record low point reached in June. The average price of 60 high-grade bonds has decreased along with stock-market prices. The present low price levels of many bonds can be justified only on the assumption that the present low rate of business activity will continue further over a very

Month	All Commodities	Building Materials	Year	All Commodities	Building Materials
1931			1930	86.3	90.3
Sept.	69.5*	75.1*	1929	96.5	104.0
Aug.	69.6*	76.5*	1928	97.7	93.7
July	70.0	75.8	1927	95.4	93.3
June	70.0	77.5	1926	100.0	100.0
May	71.3	78.4*	1925	103.5	101.7
Apr.	73.3	80.9	1924	98.1	102.3
Mar.	74.5	81.9			
Feb.	75.5	81.8			
Jan.	77.0	82.9			
1930					
Dec.	78.4	84.4			
Nov.	80.4	85.6			
Oct.	82.6	85.8			

*Not final.

prolonged period such as a year or more. This does not seem likely, consequently increases in bond prices may be expected in the near future. Table VI shows the continued fall in the wholesale prices of all commodities and also in building-material prices.

NEW LOW LEVEL OF SCHOOL-BUILDING COSTS AT POTTSVILLE, PENNSYLVANIA

Pottsville High School a Striking Example

The new high school at Pottsville, Pa., which was planned by Mr. William B. Ittner, architect, of St. Louis, Mo., will be erected for approximately 33 1/3 per cent less than the average building in Pennsylvania for the year 1929-30 and previous years.

The contracts for the building were awarded on September 3, with the general construction contract totaling \$737,950, and the cubic-foot costs on a new low level of 27 cents. According to the Department of Public Instruction at Harrisburg, cubic-foot costs for fire-resistive construction in the state had varied from 32 to 45 cents.

The school will provide work, study, and recreational facilities for 2,000 students. It was planned for easy and economical expansion, for flexibility of heating arrangement, and for minimum expense in upkeep. The construction is characterized by the most careful and sane selection of fire-resistive building materials, and the same care and skill will go into the details and finish as into its construction. The building rises on a commanding, irregular site of seventeen acres and represents an adaptation of Gothic brickwork. Its real distinction, however, lies in a skillfully wrought plan for an enriched, varied, and balanced educational plan.

In addition to low construction costs, the city realized on its \$900,000 bond issue, a premium of \$60,000. In other words, for its bond issue of \$900,000, taxpayers will have \$960,000 to spend for school buildings. This premium is due to economic conditions. With the uncertainties in the stock market, government and school bonds have become a safe and attractive investment.

In commenting on the successful contract awards, Mr. Ittner gave as one reason for the low bids, a keen competition among reliable contractors, due to economic conditions. Completeness and clearness of plans and specifications were given as another reason for the spirited bidding by builders. Honest and reliable contractors, he said, would not bid on specifications carelessly drawn.

♦ MR. A. W. WEIGL, of Ramona, Okla., has been elected superintendent of schools at Cheptopa, Kans.

♦ MR. H. H. BEACH, formerly of Westport, Conn., has accepted the superintendency at Elmira Heights, N. Y.

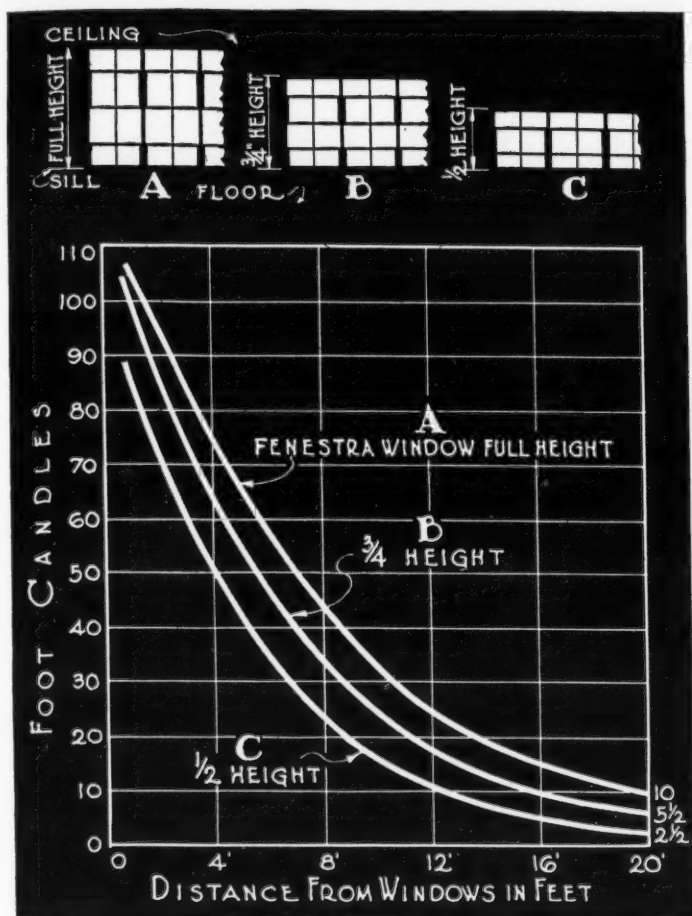
♦ MR. B. T. REES, formerly of Mentor, Ky., has gone to Chase City, Va.

♦ MR. C. D. LUTZ is now principal of the Horace Mann School at Gary, Ind.

♦ MR. G. C. PADGETT, formerly of Austin, Tex., has gone to Henderson.

♦ MR. E. J. ARNOLD, formerly of Bremen, Ohio, has taken up his duties as superintendent of schools at Nelsonville.

WHAT EVERY SCHOOL MAN SHOULD KNOW ABOUT DAYLIGHTING



The VERTICAL DIMENSION of WINDOWS

How it affects the daylighting of desks farthest from the windows

A Fenestra steel window extending full height, from sill to ceiling of a school room, provides a lighting value of 10 foot candles on a desk 20 feet back from the window. (Curve A, in chart at the left.) This is the *minimum* amount of light recommended by lighting authorities.

If this window extends only $\frac{3}{4}$ of the available height from sill to ceiling, the daylighting value at the desk is approximately $5\frac{1}{2}$ foot candles (Curve B) — scarcely more than one-half the minimum requirement. And if it extends but $\frac{1}{2}$ the available height, the light is about $2\frac{1}{2}$ foot candles (Curve C) — one-fourth the requirement.

Thus a reduction of 25% at the UPPER part of a window results in a daylighting loss at the back of a room of 45%; a reduction of 50% at the upper part of the window produces a daylighting loss of 75%.

Similar curves for different SILL heights show that a reduction of 25% at the LOWER part of a window results in a daylighting loss of only 8%; and a reduction of 50% loses only 25% of the daylight.

Recommendation: Check the window heights in your school plans, and see that the *heads* of windows approach the ceilings as closely as possible, some latitude in *sill* heights being permissible.

Outstanding Advantages of Fenestra "Fenmark" Windows

1. More Daylight—slender steel frames permit more glass area.
2. Maximum Ventilation—up to 100% if desired.
3. Built-in Windguards at the Sill—fresh air ventilation without direct drafts.
4. Maintenance Economy—every outside inch of glass quickly washed from within the room.
5. Glass Replacement Economy—inexpensive replacement of small glass lights when broken.
6. Silent, Finger-touch Operation—non-warping steel construction with bronze hinge bearings.
7. Firesafety—muntins and frames are solid, rolled steel sections.
8. Beauty—slender lines and fine hardware appointments.
9. Extraordinary Weather-tightness—demonstrated by University of Michigan tests.
10. Erection Service—by the famous Fenestra Construction Company, assuring complete satisfaction.

DETROIT STEEL PRODUCTS COMPANY
2282 East Grand Boulevard Detroit, Michigan
Factories: Detroit, Michigan, and Oakland, California



Senior High School, Marshalltown, Ia.
Architect: Dougher, Rich & Woodburn,
Des Moines



Grosse Pointe High School,
Grosse Pointe, Mich.
Architect: George J. Haas—Detroit



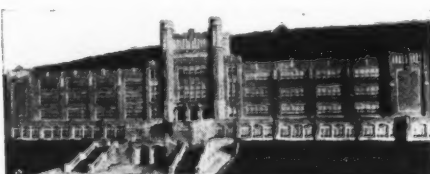
Libby Junior High School, Spokane, Wash.
Architect: Hughes & Vantyne



Abraham Lincoln Jr. High, Rockford, Ill.
Architect: Peterson & Johnson



Brookville District School,
Brookville, Ohio
Architect: Walker & Norwick—Dayton, O.



Senior or Cosmopolitan High School,
Reading, Pa.
Architect: Ritcher & Eiler

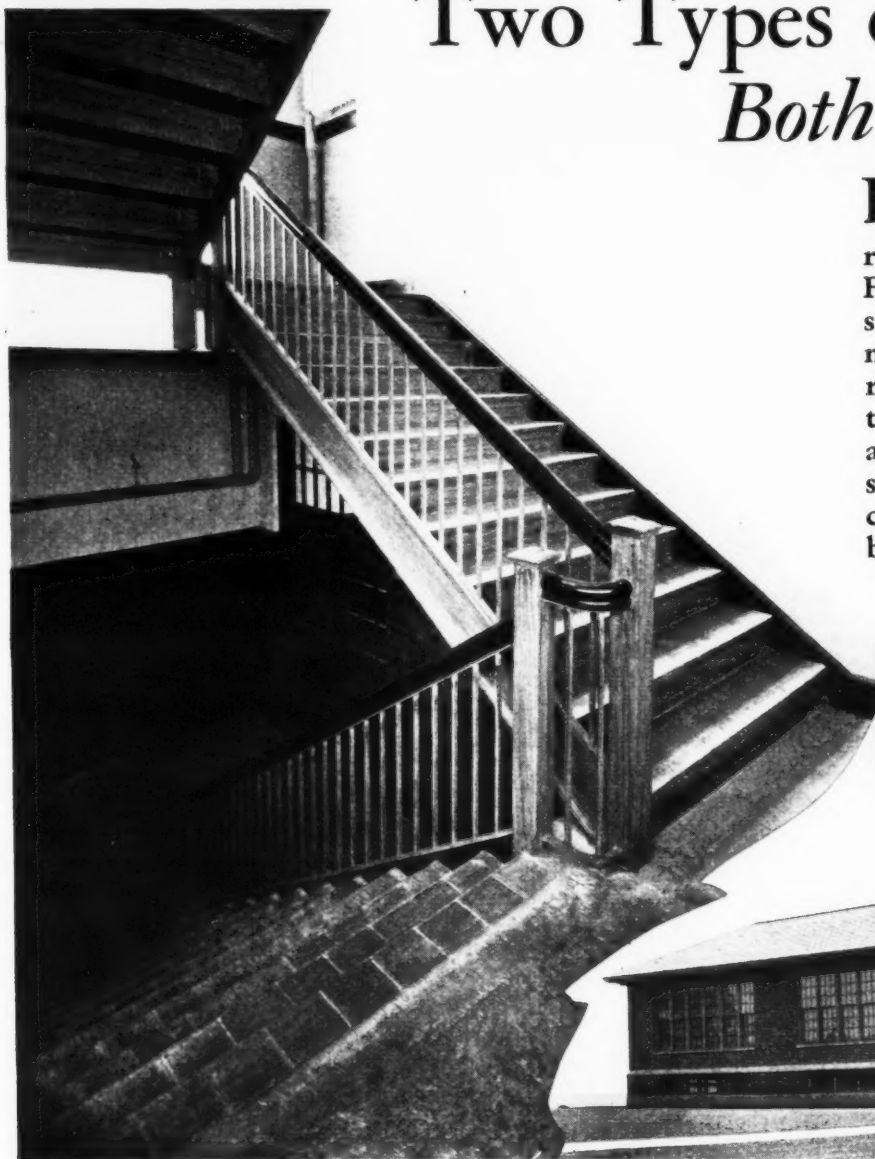


Frank H. Morrell High School, Irvington, N. J.
Architect: Donn Barber—New York City

Fenestra

WINDOWS FOR SCIENTIFIC SCHOOLROOM DAYLIGHTING

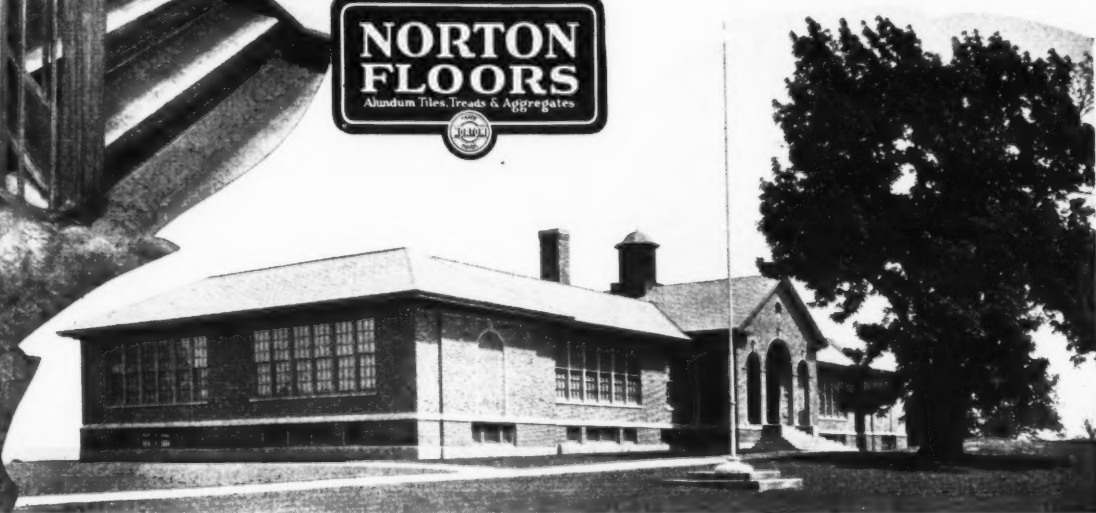
Two Types of Tread— Both Permanently Non-Slip



FROM the playground level stairways with precast Alundum Aggregate Treads lead up to the classroom floor and down to the toilets and cloakrooms. From the latter level to the gymnasium below the stairways have nosings of Alundum Stair Tile. Both materials are non-slip, *permanently* so; both materials are extremely resistant to wear. The precast treads are attractive and may be used wherever appearance is important. Backed with cement the stair tile is very suitable for service stairs and in conjunction with decorative tiles or terrazzo it may be used where appearance is a factor.

NORTON COMPANY, WORCESTER, MASS.

T-299



Washington Correspondence

By A. C. Monahan, formerly U. S. Bureau of Education

Enrollment in Public Schools

The public schools of Washington opened in September with an approximate enrollment of 80,000 pupils of all ages and attending all schools and kindergartens, through teachers' colleges, which is a considerable increase over the enrollment in previous years. The high-school enrollment was particularly large.

Increased Length of School Year in Rural Schools

The average number of days one-room rural schools were actually in session in 1930 is greater by twelve than a decade ago, which means a considerably greater increase than the average in many states, as in 7 there was no increase, and in 14 an actual decrease. The increase in the other 27, however, brings the average for all up 12 days over the previous figure as stated. The one-room rural schools of the country are still open 22 days less than the average city school.

The information is contained in a study being made by Mr. W. H. Guannitz, Specialist in Rural Education of the U. S. Office of Education. An interesting part of his study has to do with the ages of the teachers in the one-room rural schools. From data submitted by the county superintendents of schools, he shows that 26 per cent of them are under 21 years of age. Three-tenths of 1 per cent, or 1 in every 1,000, are under 17 years of age; 4.1 per cent are 17 or over, but less than 19; and 21.6 are 19, but less than 21.

Cline M. Koon to U. S. Office of Education

Cline M. Koon, of Ohio, has been appointed Specialist in Radio Education in the U. S. Office of Education. It will be his function to initiate and conduct research studies of radio as an educational agency; to organize and maintain an advisory and informational service to those using the radio in

schoolwork; and to prepare material for publication on interesting phases of this adjunct to education. The creation of this position is the result of a recommendation of the National Advisory Committee on Education by Radio, appointed by the Commissioner of Education two years ago.

Mr. Koon has been, during the past two years, in the Ohio State Department of Education as assistant director of the "Ohio School of the Air."

National Education Association Meeting at Atlantic City

The 1932 meeting of the National Education Association will be held at Atlantic City, N. J., June 25 to July 1, according to a decision of the Executive Committee. Most of the meetings will be held in the Municipal Auditorium. State Education Associations' headquarters will be in various hotels. The N.E.A. headquarters and the registration booth will be in the auditorium. A large section of the main meeting room in this building will be used for educational and commercial exhibits as was done at the Department of Superintendence meeting in 1930.

National Education Building in Washington

The headquarters of the National Education Association are now adjusted to the new building recently completed, occupying approximately two thirds of the total floor space. Part of the remainder is rented to the National Congress of Parents and Teachers, the National Committee on Education by Radio, the Association for Childhood Education, and the World Federation of Education Associations.

The building includes the original four-story structure purchased in July, 1920, and occupied since then as the headquarters, and a new seven-story addition covering about twice the ground area of the original building. The total building is now 70 ft. in length on Sixteenth Street and 132½ ft. on M Street.

The office of the secretary, J. W. Crabtree, is in the old building on the ground floor adjacent to the Sixteenth Street entrance. That of the business manager, Harold A. Allan, is in the new building adjacent to the M Street entrance. The office of the Department of Superintendence is on the second floor, as is also the mailing and record division

of the N.E.A. The division of publications is on the third floor, and the library and research division on the fourth. The National Congress of Parents and Teachers occupies the entire sixth floor.

School Administration and Finance

Walter S. Deffenbaugh, chief of the Division of American Schools of the U. S. Office of Education, assisted by Timon Covert, specialist in school finance of the same office, has prepared a report on school administration and finance which appears in the biennial report of the Commissioner of Education. It is the first time in recent years that a chapter on this subject appears in the report, although most of the material has been treated in other chapters under various titles.

In this chapter, Mr. Deffenbaugh reviews the status of school organization in the United States, the functions and organizations of state boards of education and state departments of education, county school administration, rural-school administration, and city school systems. Referring to the number of persons employed in the state departments of education, he says:

"Before the decade, 1910-1920, state departments of education consisted, for the most part, of the state superintendent and a few clerks. In 1910 the median number of members of the state school department was 5; in 1920, 19; and in 1930, 28 members. In 1910, the size of staff varied from 1 to 265 members; in 1921, from 8 to 437; in 1930 from 8 to 594. In 1910, the total number of members for all state departments of education was 534; in 1920, 1,614; and in 1930, 2,526. The percentage of increase for the decade, 1910-1920 was 202.2; and for the decade, 1920-1930, the percentage of increase was 56.5.

A noticeable movement in city-school work has been the establishment of research departments in the superintendent's office. In 1912 there were two such departments, in 1922 there were 49, and in 1930 there were 119. The functions of these departments include pupil testing, curriculum making, guidance, surveys, experimental studies, and financial studies. The size of the staff employed varies from 1 to 48. The average size in cities of over 100,000 is 5.5, and in smaller cities, 2.3.



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When Sealex Floors go down, the floor refinishing man steps out. You’re through with that expense once and for all!

Not one more cent for scraping.

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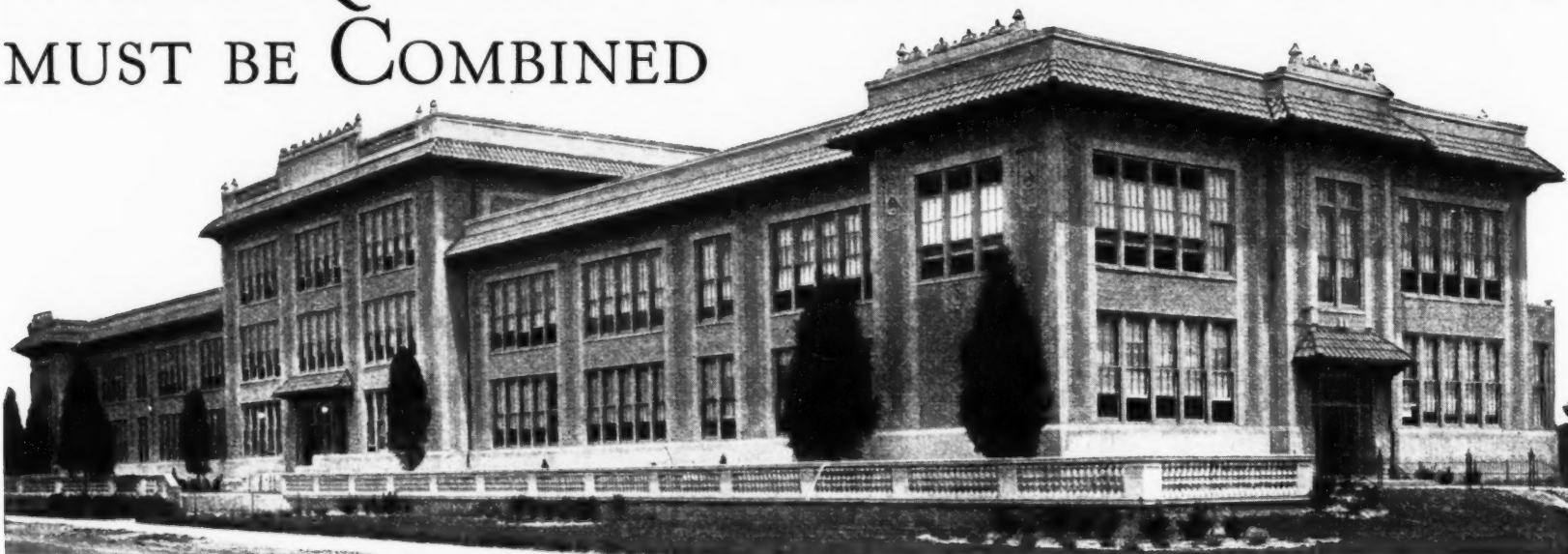
Furthermore, what you save on refinishing is not paid out in increased cleaning costs. In fact, many buildings report substantial economies, particularly when the waxing method of cleaning is employed.

Write for further facts and figures on these modern floors. Ask, too, about the Guaranty Bond, given on Sealex materials installed by authorized contractors of Bonded Floors.

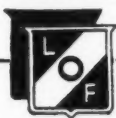
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LIBBEY-OWENS-FORD QUALITY GLASS

Chicago Correspondence

In July, the Chicago board of education adopted a series of economy measures designed to lop \$2,311,000 of the previously authorized expenditures for the year. This represents a reduction of about 3½ per cent in the year's expenses. Critics of the school board were not satisfied that this was enough. Thereupon, one of the trustees introduced a resolution for further retrenchments, as follows: Cancel the automatic increases in the teacher salary schedules; reduce the number of continuation-school teachers; eliminate dental work in the schools; eliminate Americanization work; and put into effect a 5-per-cent horizontal cut in all teachers' and other employees' salaries. There was no support for the resolution and it was placed on file.

At a hearing before the senate committee investigating Chicago school costs, the head of the janitor's union registered a good point. The statement had been made that every other large business in the city is economizing and retrenching, so why should not the school system do likewise? In reply, he pointed out that when a business firm is growing and its customers are many, it naturally expands its activities to take care of the customers; but when business is poor, and customers are lacking, the firm restricts its activities and puts into effect various economies. At the present time, unlike most other business, the school system is having an increase of patronage—in fact, the greatest increase in years. Why, then, should an institution with an exceptional increase in the volume of its business, try to put into effect drastic retrenchments which handicap its ability adequately to take care of its increase in "customers"? (Last year the Chicago high schools had an increase of 13,000 students, although the average for the preceding ten years was only 5,000 increase per year.)

Early in September, Supt. William J. Bogan sent a recommendation to the school board, asking that \$4,050,000 be appropriated for the letting of con-

tracts to construct three new junior high schools, the Dvorak, the Rembrandt, and the Galileo. These three structures are to be built from the same plan, a new-type plan recently completed by John C. Christensen, board-of-education architect. The new buildings will be 1,600 pupil-capacity buildings of the U type. Bids received on the Dvorak indicate that they will cost approximately \$1,350,000 each.

Sensational charges were made before the "governor's investigating committee" that the Chicago board of education paid \$500,000 too much for the new Parker Junior High School. This school, one of a group of buildings located on the Chicago Normal College campus, cost \$2,500,000. An efficiency expert from one of the city's leading architectural firms and another from a leading construction firm (neither of which does school-construction work), have analyzed the plans and specifications from which the Parker was built, and had compared the school-building costs with other recently constructed office buildings.

School officials defended the reasonableness of the contracts. They pointed out that the Parker building cost 55 cents per cubic foot, while two of the office buildings mentioned by the experts had cost 90 cents per cubic foot in one case and 80 cents in the other. They stated that part of the cost was due to remodeling the central heating plant in the Normal College, and constructing tunnels between buildings. Finally, they intimated that school buildings and commercial buildings are not comparable, and that the men, although experts in general fields of architecture and private construction work, were not justified in carrying their ideas over to the highly specialized field of public-school architecture and construction.

Personal News of School Officials

♦ SUPT. L. A. WALKER, of Swanton, Ohio, has been reelected for his ninth successive term.

♦ MR. FRANK POLLITT, of Alpine, Tex., has been elected superintendent of schools at Valentine.

♦ SUPT. H. D. FURST, of Cedarville, Ohio, recently refused an increase in salary for the school year. After the board had adopted a retrenchment program, Mr. Furst refused to accept an increase, although he was entitled to it under the terms of his contract.

♦ SUPT. A. J. LOVE, of Clyde, Ohio, has entered upon the twentieth year of his service as head of the local school system.

♦ MR. S. M. MILLER has become superintendent of schools at Sterling, Ohio.

♦ DR. RALPH L. SPAULDING has been reelected president of the board of education of Monticello, N. Y., for a third successive term.

♦ MR. JOHN OLSON and MR. JAY R. PEARSE have been reelected to the board of education at Hancock, Mich., for the ensuing year. MR. E. M. LIEBLEIN, formerly president of the board of education, has resigned after completing nearly fifteen years of service.

♦ MR. R. E. CORRILL, of Jamestown, Ohio, has become superintendent of schools at Yellow Springs.

♦ MR. R. E. STONE, of Yellow Springs, has gone to Jamestown, Ohio.

♦ SUPT. A. M. PAULSON, of Cooperstown, N. Dak., has been reelected for a third consecutive term.

♦ MR. L. A. FLEMING has been elected superintendent of schools at Plainsville, Kans.

♦ MR. V. T. WEEMS, of Manchester, Iowa, has been elected superintendent of schools at Vinton. Mr. Weems is a graduate of Grinnell College and holds a B.A. degree from Iowa University.

♦ MR. J. F. GOLDENBOGEN has been elected clerk-treasurer of the board of education of Parma school district, near Cleveland. Mr. Goldenbogen succeeds Frank Shields, who has become principal of the Parma High School.

♦ MR. FRANK LEEK, MR. F. M. HAMMOND, and MR. R. E. DEVORE have been elected as new members of the board of education at Great Bend, Kans., succeeding Mr. M. V. Fryberger, Mr. F. H. Ewing, and Mr. Will Edman.

♦ MR. GEORGE WELLS has been elected as secretary of the board of education at Edinburg, Ind., succeeding B. G. Breeding.

♦ MR. R. I. HAMMOND has been elected superintendent of schools at Lanesboro, Iowa.

♦ MR. REZIN DOMER has been elected superintendent of schools at Ralston, Iowa.

♦ MR. I. N. CUNNINGHAM has been reelected as superintendent of schools at Carroll, Iowa.

♦ MR. A. C. LEE has been reelected as superintendent of schools at Manning, Iowa.



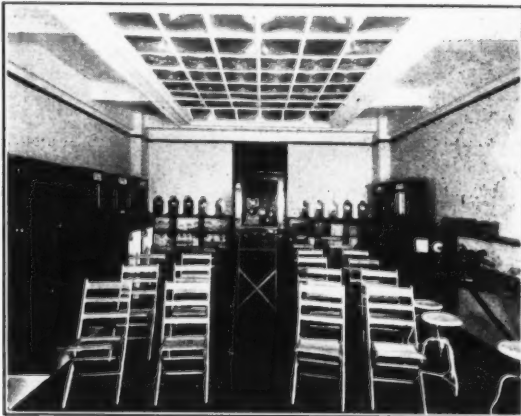
Planned Lighting, with Holophane Reflector-Refractors, in the auditorium of the Northeast Junior High School, Reading, Pennsylvania.

HOLOPHANE PLANNED LIGHTING *Solves A Difficult Problem*

THE following letter was written to the Holophane representative in Reading, Pennsylvania, by Mr. James Ambrose Shook, Principal of the Northeast Junior High School of that city.

"This little note is to tell you how pleased we are with the Holophane Lighting installed on your advice in our large auditorium. It has completely solved our problem of illuminating the Holy Grail Mural decorations, a problem for us of three years standing. *These pictures can now be viewed, in detail, from any seat in the auditorium.* Another strong feature of these lights is that there is no glare from them to strain the eyes. It is a splendid job of illumination, and I want to express

my personal appreciation to you for your help in bringing it about."



Holophane Light and Vision Institute
Holophane Company, Inc., maintains its own demonstration laboratories for the convenience of school officials and others who are interested in good lighting. These laboratories are located at 342 Madison Avenue, New York . . . also at the Holophane branch offices in Chicago, San Francisco and Toronto. In addition, there are permanent Holophane exhibits at the Lighting Institute, Chicago; Nela Park, Cleveland, and Westinghouse Lighting Institute, New York.

The lighting of this auditorium was treated as a special problem by Holophane engineers, which explains the term "Holophane Planned Lighting." In planning any lighting installation Holophane engineers always take into consideration not only the *amount* of light required, but the quality of illumination called for by the character of the surroundings, and of the work to be done.

The Holophane Engineering Department will co-operate with you by furnishing lighting specifications, without obligation, either for new installations or for improvements in old buildings. Please feel free to write on any subject relating to lighting, directing your inquiry to the New York office.

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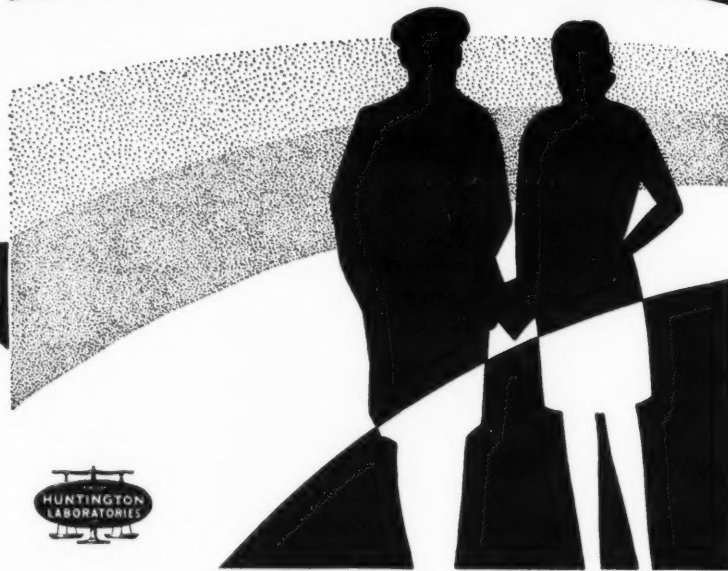
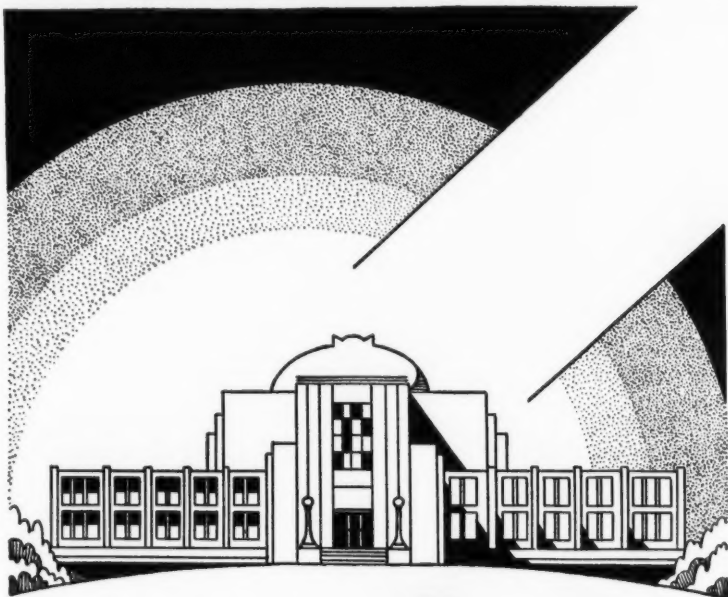
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School Law

♦ The attorney general of Ohio has issued a ruling, which embodies the following: "While a board of education may not be held legally responsible for injuries sustained by a pupil who is injured in the manual-training shop of a public school, the board may lawfully recognize a moral obligation and pay a claim for such damages from public funds if the circumstances were such that the board would have been liable if not protected by the rule of nonliability of governmental agencies acting in a governmental capacity."

♦ About 40 school superintendents and a large number of boards of education from the eastern counties in Tennessee have petitioned the governor of that state to call a special session of the legislature for the purpose of providing funds for the operation of the schools. The petition points out that the present equalization fund is inadequate.

♦ The State Department of Public Instruction of Wisconsin has ruled that it is not required that the driver of a bus carrying children to and from school shall take out liability insurance. If the driver owns the bus, it is his privilege to insure his bus, in his own name, for it is his property.

It is presumed, of course, that the roads shall be kept in good condition under the direction of the town board. In case of an accident to the bus and injury to the children, because of a defect in the road, suit might be brought against the town for damages, but not against the school district.

♦ The Iowa state superintendent of schools, Miss Agnes Samuelson, has called attention to a provision in the state law regarding the purchase of supplies which means favoring the products of the state. The section of the law in question reads: "Every commission, board, committee, officer or other governing body of the state, or of any county, township, school district, city or town, and every person acting as contracting or purchasing agent for any such commission, board, committee, officer or other governing body shall use only those materials, prod-

ucts, supplies, provisions and other needed articles produced, manufactured, compounded, made or grown within the State of Iowa, when they are found in marketable quantities in the state and are of a quality reasonably suited to the purpose intended, and can be secured without additional cost over foreign products or products of other states."

♦ School boards in the State of Minnesota may place fire insurance with mutual companies. In the suit of a taxpayer of Lakeville, Minn., Judge W. A. Schultz of the Dakota County District Court held that there is nothing in the Minnesota laws to prevent school boards from placing insurance in a mutual company.

♦ The legality of the teacher tenure in Indiana is to be tested by the Elwood school board. The board refused to sign contracts with the instructors, who come under the teacher tenure law, as the result of a resolution adopted in an effort to eliminate married women from teaching in the local schools. Marriage, the board alleges, detracts from their efficiency in the schoolroom as the teachers have home duties to perform and cannot give the proper time to their teaching work. The tenure law provides that where a teacher has been employed for five consecutive years in a school, the sixth contract is a permanent one and cannot be revoked except for inefficiency, immorality, insubordination, "or other good and just causes." When the board notified the teachers their services would not be required this year the discharged instructors brought suit in the circuit court at Anderson against the board to mandate that body to reinstate them.

Teachers and Administration

TEACHER SURPLUS NOW ACUTE

It is asserted by the United States Office of Education that the teacher surplus prevailing throughout the country has become an acute problem. In discussing the subject, Dr. F. J. Kelly, the expert,

does not venture an estimate of the total number of trained teachers who are out of position.

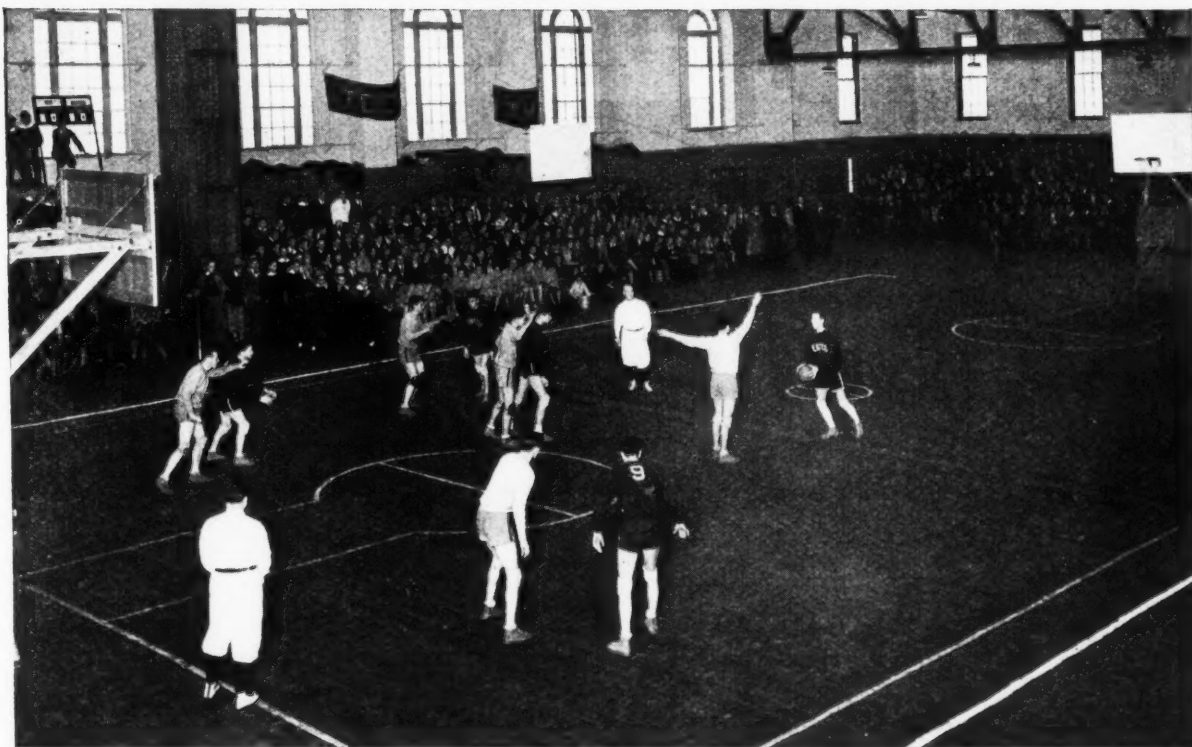
He points to the fact that the total number of employed teachers in the United States is somewhere about the 1,000,000 mark, and that the turnover runs between 166,000 to 200,000 annually. This is based upon the rough assumption that the teacher's period of service is between five and six years.

Dr. Kelly finds that while there is a surplus of teachers in many sections there is also a shortage in other sections. The number of students now in teacher-training institutions has increased rather than diminished in recent years.

The survey now in hand by the Office of Education will establish the actual number of trained teachers out of employment. Dr. Kelly concludes his report on the subject by saying: "Some interesting consequences of this unprecedented growth may be expected in future scholastic requirements for teachers in high schools, junior colleges, and regular four-year colleges, as well as in public-school supervisory and administrative work."

♦ San Francisco, Calif. A system under which public-school teachers are permitted to double their incomes by instruction in both day and night schools has recently been attacked by two local organizations, the teachers' association, and the city and county federation of women's clubs. Mrs. Marjorie Stewart, president of the teachers' association, in opposing the practice, said that the duties of teachers in the day schools, if they are well performed, require full time and attention. The evenings, in her opinion, should be devoted to rest and recreation.

Supt. J. M. Gwinn, at the request of the board of education, has begun a study to reduce the duplication of jobs and to create work for unemployed teachers. His study thus far, has shown that 192 of the 233 night-school teachers are holding two jobs, and that 128 are day instructors. In addition, 10 employees in other city departments, whose day jobs bring them large salaries, receive from \$90 to \$192 from the board of education for night-school work.



THIS BLOXONEND GYMNASIUM FLOOR "SOLD" SIX OTHERS IN SAME CITY (WASHINGTON, D. C.)

The gymnasium shown above is in the McKinley Technical High School, Washington, D. C., A. L. Harris, Municipal Architect. It was floored with 17,000 square feet of Bloxonend in 1928 and is one of the largest high school gymnasiums in the country. Practically every major gymnasium erected by the Municipal School System in the Nation's Capital since that date has been floored with this material.

The splendid service rendered by Bloxonend in the Washington Schools is being duplicated in hundreds of other school systems throughout the country. In Baltimore, 13 school gymnasiums have been Bloxonend equipped; in Rochester more than 60,000 square feet have been installed in its finest schools, including the new Benjamin Franklin High School.

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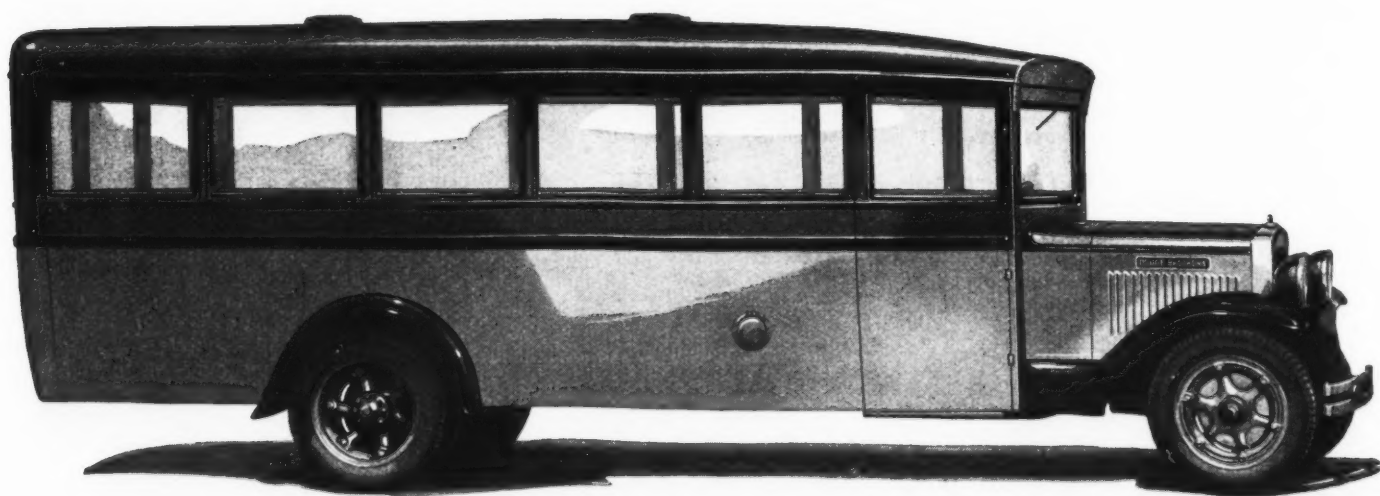
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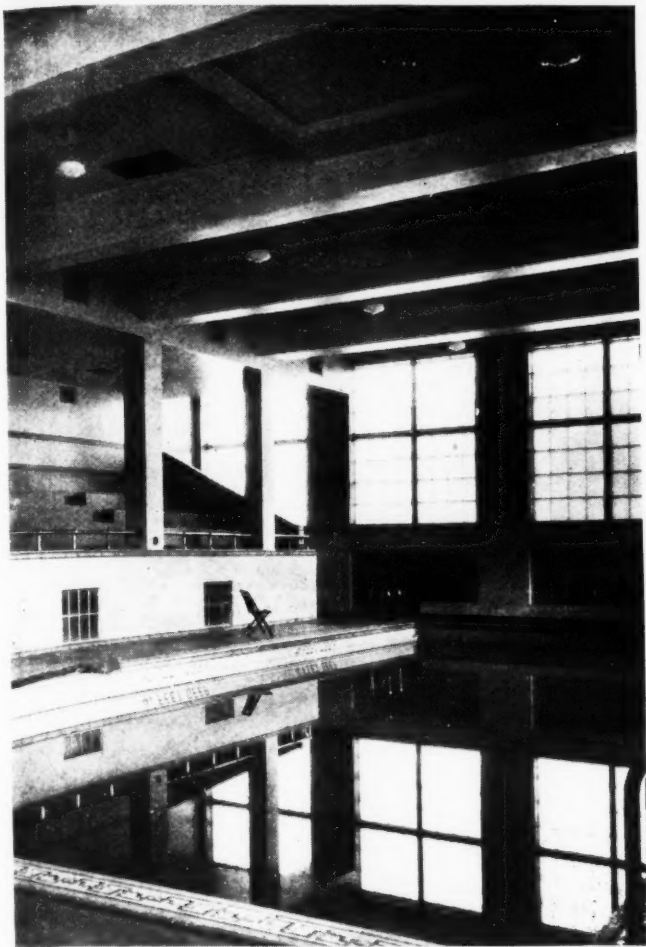
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School Board News

♦ Portland, Oreg. The school board has taken steps to liquidate on school-property not in use by placing 1931 prices on it, and replacing the 1926 figures. It is believed that the appraised values of idle school land held by the district will total \$550,000. Some of the largest idle holdings of the district, the records showed, were the old Portland art museum and site, valued at \$155,000; the old High School of Commerce building and site, \$75,000; the old Davis School and site, \$25,000.

♦ Racine, Wis. The school board has received a gift of 5½ acres of land adjoining the Horlick High School, to be used as an athletic field. The gift was made by Mr. and Mrs. William Horlick.

♦ Sparta, Wis. A total of 498 voters cast their ballot in a recent referendum election to accept a new city-law plan for the organization of the school board. The ordinance, which was passed with a majority of 26 provides for the selection and manner of composition of the city school board under the city school plan. At the regular spring election, a school board of five members will be elected. The one receiving the greatest number of votes will serve for three years the next two highest for two years, and the two third highest for three years.

♦ Benton Harbor, Mich. The school board has reduced the school-tax levy from \$14.50 to \$12 per thousand of real estate valuation. The reduction is the result of numerous economies which the board of education compelled in school operation during the past year. It is estimated that a saving of \$21,000 in teachers' salaries will be effected during the next year.

♦ Council Bluffs, Iowa. Board of education, members recently denied vehemently any implication of financial mismanagement on the part of principals of the two high schools, but agreed that an internal accounting system is necessary for the protection of the principals and for the public funds they handle.

Discussion of the internal accounting system arose when an additional clerk was asked by Principal Ray Myers of the Jefferson High School to handle the extra work. Members of the board pointed out that the accounting system would not be a reflection on the principals' administration of the funds, but was intended to provide an adequate record of the financial turnover during the year, which is approximately \$20,000. The appointment of the extra clerk was approved, and the school accountant was appointed to check the system periodically.

♦ Chillicothe, Ohio. The school board has approved a trial of the school-boy-patrol plan of controlling traffic near the school buildings. The plan has been prepared in cooperation with the automobile club and safety council.

♦ Supt. W. J. Bogan, of Chicago, Ill., has reported that an average of 2,500 children, ranging in age from 5 to 12 years, were fed during the summer months under the direction of the local board of education. The plan was begun by Superintendent Bogan at the beginning of the vacation period, after a survey had shown that thousands of children would go hungry during the summer months. The newspapers of the city contributed \$2,000 to the fund, the local woman's club gave \$2,000, and the governor's relief commission contributed \$2,000. The milk council donated 1,000 half-pint bottles of milk valued at \$1,250. The children were mainly those living in the industrial districts, where plants have shut down and the fathers are out of work.

♦ Trenton, Tenn. The transfer of school management from the city to the county board of education has brought criticisms of confusion in administration and a lowering of the standards of the Peabody High School. In an effort to economize, the county board had eliminated certain teachers. It appears that no credits are allowed for college

entrance unless the French course covers two years, and so with the elimination of the French teacher, the high school lost its position among the educational institutions. Another tangle arose in the home-economics department, when the county board elected another teacher for this department. The former teacher, who had married, contended that she was under contract and has also continued to hold her position.

♦ School boards in Iowa may not purchase coal or other supplies from a corporation in which a member of the board is a stockholder, according to a recent ruling of Attorney General John Fletcher, given to Miss Agnes Samuelson, state superintendent of schools. The question was submitted to the attorney general by Miss Samuelson, following requests of a number of school boards.

♦ Minneapolis, Minn. The adoption of a new, reduced minimum labor wage scale by the school board has resulted in a threat by the building trades' union that they would prohibit their members from working on school-construction jobs. Although school-construction jobs have been open shop, technically speaking, under the city wage scale, union men have been permitted to work on them where all members of a particular group were union members. The abandonment of the city or union wage scale by the school board has changed the policy, and the labor unions have protested against straight open-shop practice.

The new wage scale will not reduce bids materially, according to Mr. G. F. Womrath, business superintendent, and the reductions in hourly wages are not believed sufficient to cause any great savings in the cost of buildings. It will be used for the first time in the construction of the first unit of the girls' vocational high school.

♦ The county board of education of Clinton county, Ind., has worked out a plan of receiving and distributing second-hand school books. Teachers in the county schools were asked to cooperate in obtaining the books from school patrons and in getting them into the hands of students who need them. It is expected that the plan will result in a saving of \$2,000 or \$3,000 for school patrons.

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KANSAS CITY, MISSOURI

♦ Wheaton, Ill. The boards of education of School Districts 36 and 95 have adopted a rental textbook plan, which allows pupils to pay a flat rental fee at the opening of the school year, and relieves them from further expense for the entire school year. The annual rental fees are \$1.25 for the kindergarten and grades one, two, and three; \$1.75 for grades four, five, and six; \$2 for grades seven and eight; and \$2.50 for the high school.

Under the plan, pupils may purchase books outright if they desire, but the rental rate will not be reduced where pupils own part of their books and rent the remainder. Only second-hand books in good condition are purchased at 50 per cent of the cost price.

♦ Oshkosh, Wis. The local trades and labor council recently sent a communication to the school board, asking a formal resolution to prohibit the use of school bands by private or outside interests. No action was taken, for the reason that the school board is adhering to that policy. The resolution was intended to conform with a resolution adopted at the state labor meeting.

♦ Morrilton, Ark. The school board has rescinded its former action providing for a matriculation fee for all students. A resolution was adopted calling for a four months' term of free school, except for students of the junior and senior high schools, who will be charged a matriculation fee of \$2.50. It is expected that some plan will be evolved for continuing the schools another four months, either by tuition or by donations.

♦ Bowling Green, Ky. Nonresident pupils who enter the grade schools have been asked to pay a tuition fee of \$10 per quarter. All junior- and senior-high-school students are required to pay \$15.75 per quarter.

♦ Cleveland Heights, Ohio. The school board has adopted new tuition rates for the school year 1932. In the senior high school the tuition rate has been decreased from \$4.88 to \$4.56; in the junior high school it was raised from \$3.87 to \$4.54; and in the graded schools the rate was reduced from \$3.63 to \$3.61.

♦ Clarksville, Tenn. The high-school day has

been reorganized to provide six 60-minute periods in place of eight 45-minute periods as formerly. The change places the students under the direct care of their teachers for a greater period of time and is an aid to the improvement of instruction.

♦ San Francisco, Calif. An investigation to determine the number of teachers holding two jobs and drawing two salaries has been ordered by the board of education. The movement was started to prevent teachers holding positions in both day and night schools and to eliminate double pay at a time when many teachers are unemployed.

♦ Dayton, Ohio. The school board has adopted a calendar providing for a continuance of the schools after 36 to 40 weeks during the school year. The action leaves the board free to shorten each semester by two weeks if the school funds become exhausted. The board has voted to cut teachers' salaries by ten per cent to effect a saving in payroll expenditures.

♦ Columbia, Tenn. Due to the shortage of state and county school funds and the uncertainty of tax collections, teachers in the high school have been asked to accept a reduction of five per cent in salary. The action in effect, reduces the amount to be paid by the county \$1,000, thus relieving the financial load on the county, and putting the city teachers in line with the reductions made outside the corporation.

♦ Milwaukee, Wis. The local teachers' association and its officers have been accused of breaking faith with the school board, the trustees of the pension fund, and the city taxpayers, in a recent statement by President H. V. Meissner to the school board.

The charge was made in connection with a request by Director Waldemar Wehe, that the governor include in his call for a special legislative session, a repeal of an amendment to the teachers' fund law whereby a teachers' maximum pension would be increased from \$900 to \$1,200 a year.

According to Mr. Meissner and Mr. Wehe, it was slipped over without a word of information to either the school board or the trustees of the pension fund, through the secret solicitation of the teachers' asso-

ciation. The pension increase, it was pointed out, materially affects the solvency of the pension fund.

♦ Chillicothe, Ohio. A new system of purchasing coal for the schools has been adopted by the school board. Under the new plan, coal will not be furnished by contract, but dealers will get the orders, the price and quality of the coal to be factors in distributing the orders.

♦ Pomeroy, Ohio. The school board has awarded a contract for coal for the school year, at a decided reduction from the cost for last year which was \$650. The contract calls for lump coal at \$1.90 a ton, run-of-mine at \$1.25 a ton, mine-run coal at \$1.10, and slack at \$1.10.

♦ Dayton, Ohio. The school board has been offered a 10-acre tract, valued at \$18,500, to be used for school purposes. The site was offered by the owners, Mrs. Nettie E. Swallow and George L. Swallow and would solve the problem of a site for the new North Riverdale School.

♦ The body of Mortimer Enright, 42, superintendent of electrical repairs for the Chicago board of education, was found near Hinsdale, Ill., on September 4. The victim had been shot after he had been beaten and thrown from an automobile.

♦ Fond du Lac, Wis. Economy in school operation will be stressed during the school year 1931-32 and teachers have been asked to keep school costs as low as possible without handicapping the instruction. Fewer books will be required in line with a suggestion to cut costs to parents as much as possible. Only one music textbook for each two pupils will be purchased. Purchase of the books by school boards is not made compulsory, but schools which fail to supply the books will receive little help in music.

♦ Delphi, Ind. A county-wide plan for the sale of elementary- and high-school used textbooks has been arranged for each school community, under the direction of Mr. C. A. Bailey, county superintendent of schools. Books are received at a convenient place, marked, priced, and sold to students. It is believed that several hundred dollars will be saved to the school patrons through the arrangement.



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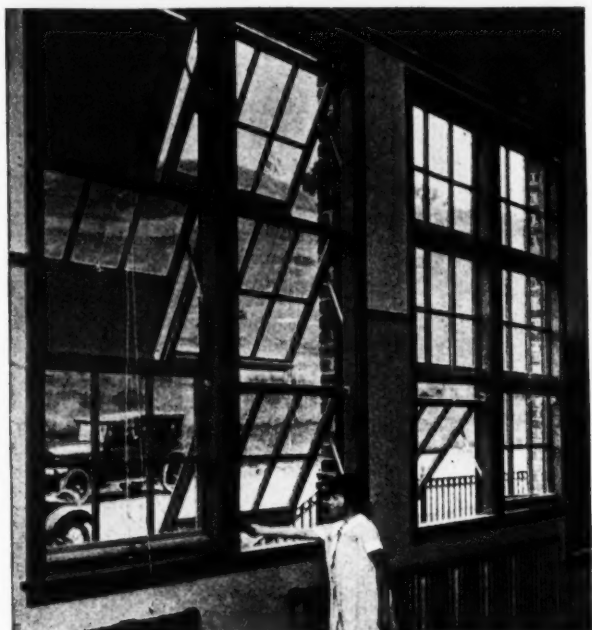
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School Finance and Taxation

OTTUMWA DISCUSSES SCHOOL COSTS

In a recent public statement, Supt. Walter McLain, of Ottumwa, Iowa, discussed school costs with the local citizenship. After pointing out that the United States spends less than 2½ per cent of its national income on public-school education, Mr. McLain said that the average cost per pupil in 1928 for the country at large was \$105.99. In Ottumwa it was \$90. He then said:

"A single example of the economy in the operation of the Ottumwa public schools is to be seen in the Elliot 5-per-cent law that passed the Iowa legislature recently. In its operation it strikes a great number of school districts over the state in this way:

"School corporations below ten thousand enumeration who are levying \$80 per pupil plus \$1.50 for texts and supplies in their general fund, must cut their amounts 5 per cent a year for the next two years.

"The Ottumwa Independent School District levied \$56.43 per pupil which has been the approximate amount for several years. This is \$25 less per pupil on a total enumeration of 7,354 of school age or nearly \$185,000 below the limit provided by this law for tax reduction, which will, no doubt affect a great number of districts, large and small."

FINANCE AND TAXATION

♦ The 1932 school budget calling for \$146,338,848, which is said to be the largest in history of the city of New York, has been submitted to the board of estimates. It exceeds the budget for the current year by \$5,953,963. Of the total the city will contribute \$98,683,987, and the state and federal governments \$47,654,861. The federal government's share is \$250,000 which goes toward the vocational activities. In addition to the sum of \$146,338,848 provided in the new budget, the city will spend approximately \$30,000,000 for the acquisition of

school sites, construction of new schools, additions to existing schools and to repair antiquated and inadequate buildings.

An additional \$35,000,000 will be spent for interest and amortization of bonds for school purposes, installments paid into the trust funds for the Teachers' Retirement System, expenditures of the department of health and of the department of water supply, gas and electricity, for school purposes. Altogether, therefore, there may be spent for school purposes more than \$212,000,000 during the coming year, approximately \$9,600,000 more than during the current year.

♦ The board of education of Buffalo, N. Y., has voted to reduce the salary of Supt. Ernest C. Hartwell from \$15,000 to \$12,000. Mr. Hartwell refused to accede to the reduction holding that he had a six-year contract at the higher figure. The board contends that the contract is not binding since it was made more than a year in advance of his previous contract. It is also claimed that as a public officer he is not entitled to a contract.

♦ Shelbyville, Ind. Although the school tax rate has been set at \$1.17 for the year 1932, the amount to be realized from the school tax will be \$9,882 less than last year, due to a lowering of the assessed valuation of real estate. Under the 1931 tax levy there was collected a total of \$228,120. The same tax rate in 1932 will raise a total of \$218,238, or a saving of \$9,882.

♦ DeKalb, Ill. In its budget for the year 1932, the school board has cut \$9,000 from the expenditures, effecting a saving of 10.6 in school revenue.

♦ Washington, Ind. The school board has proposed a reduction of fifteen cents in the school tax levy for the year 1932. Last year the tax rate was \$1.47, and this year the rate is \$1.32. The total raised last year for the city schools was \$114,579, compared with \$101,305 for the present year.

♦ A peculiar situation has arisen at Sunnyside, Wash. The school board has stated emphatically that it cannot operate the schools on the present tax allowance. The voters have just as emphatically declared that they will not approve an additional levy. The local newspaper, *The Times*, says: "There can be but one answer — a different school board. The members of the board will doubtless be glad

to give up their thankless job and let someone else try to accomplish what they say is impossible for them to accomplish. No one who has opposed the levy can refuse to accept an appointment on the board — and hold up his head among his fellow citizens. To refuse would be to confess that they were not honest in their opposition to the levy. The demand for their resignation implies no serious criticism of the present board. To resign implies no admission on their part that they have not done the best that could be done. It would simply show that they still have the best interests of the schools at heart. They are the goats in an unfortunate situation."

♦ Milwaukee, Wis. The school board has adopted a budget, totaling \$9,780,065 for the operation and maintenance of the schools during 1932. The general school fund totals \$7,753,535, of which \$5,841,000 is to be raised by taxation. The total appropriation for the year 1931 was \$9,738,017. The board has asked the city council to approve a bond issue of \$540,000.

♦ Mansfield, Ohio. The school board has received a report from the special committee on fuel and light conservation, which asks that the board agree to reduce the costs of light and heat during the school year. Under the new economy program, all school buildings will be dark after 4:30 p. m.

♦ Louisville, Ky. Because of a lack of school funds, the board of education has discontinued the operation of night schools during the school year. The night schools had been in operation since 1834.

♦ Hamilton, Ohio. In deciding against the submission of a special tax levy to the voters in November, the board has announced that it will be necessary to curtail expenses or reduce salaries next year. The levy now in effect continues until 1932, providing \$125,000 a year. All kindergartens have been discontinued for the present year.

♦ Gary, Ind. The school budget for 1932 has been fixed at \$3,280,000, as compared with \$3,491,000 for 1931. The budget represents a saving of \$211,000 from that of last year.

♦ Hammond, Ind. The 1932 school-tax levy has been fixed at \$1.29, which is a reduction of 3 cents from that of last year. The new rate will raise school revenue amounting to \$1,403,495.

(Concluded on Page 72)

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(Concluded from Page 70)

♦ Goldsboro, N. C. The school board faces the problem of operating the schools of Wayne county for a six months' term, with \$100,000 less than last year. The budget represents a cut of 29 per cent from the amount actually spent in 1930-31.

♦ South Bend, Ind. The board of education has proposed keeping the school-tax levy at \$1.075 for the school year 1932. This rate will yield \$2,178,617 for the operation of the schools, which is \$46,617 less than the amount for last year.

♦ Bluffton, Ind. The school-tax levy for 1932 calls for a levy of \$1.53 on each \$100 of valuation. This is a raise of 4 cents over the rate for last year.

♦ Franklin, Ind. The school-tax rate will remain at \$1.09 for the year 1932, but will bring in \$4,000 less than that for last year.

♦ Platte, S. Dak. The school board has adopted a budget for the school year 1932, calling for a reduction of more than 26 per cent. The appropriation has been reduced from \$40,085 in 1930-31, to \$29,500 in 1931-32. The teaching staff suffered a cut of \$2,400 in salary as compared with last year.

♦ Marion, Ohio. The county board of education of Marion county has effected a saving of \$44,524 in school expenditures, by a 10-per-cent reduction in teachers' salaries and other economies involving the combining of classes and the increasing of the teaching load.

♦ Indianapolis, Ind. The local banks have adopted an arbitrary increase in the interest rates on school loans from 27½ to 5 per cent. Answering an advertisement for a 90-day loan of \$150,000 to meet current expenses, six banks offered a joint bid at an interest rate of 5 per cent, with a premium of \$12. The bid was accepted.

♦ Zanesville, Ohio. The school board has voted to discontinue the 2-mill tax levy voted two years ago for the building of schools. A levy of 1¼ mills will be placed before the voters at the next election for the purpose of maintaining the schools. The old tax levy was discontinued because no new buildings are needed and there was a demand for lower taxes.

♦ Youngstown, Ohio. The board of education has begun a campaign to obtain the voters' consent to a special tax levy this fall for school purposes. The 3.6-mill levy voted the schools five years ago expires this year and it is necessary to vote a sufficient levy to operate the schools in an economical manner during the next year.

Mr. William Rowney, chairman of the finance committee, pointed out that the financial situation is a little different this year. The expenditures of the schools for 1932 will be limited by the 15-mill limitation, the reduced tax duplicates, and the fact that the special levy affects 40 per cent of the school income.

Mr. E. S. Lide, specialist in the U. S. Office of Education, recently made a study of the constitutional basis of public education in America, and as the country has developed the constitutional provisions have increased. From his study, Mr. Lide concludes:

"A consideration of the data reveals a lack of settled policy on the part of the various states as to the degree in which other types of provisions should be written into the constitution, and how much left to the law-enacting bodies more sensitive to change.

"The following four types of provision are the only ones which appear in the constitution of a majority of the states:

"1. The furthering of the educational interests of the state is made the responsibility of the legislature.

"2. The use of public-school funds for sectarian purposes is prohibited.

"3. The source, care, and method of apportioning the state school fund are prescribed.

"4. The manner of selection, qualifications, term, and sometimes the salary of the principal state school officials are prescribed.

"It is interesting," said Mr. Lide, "to note in current literature, however, that the wisdom of including provisions of the latter two of the four types enumerated is being questioned. For example, it is maintained that present-day conditions are demanding new sources of revenue for school purposes, and that some of the methods of apportion-

ing state school funds which are prescribed in constitutions have not proved satisfactory in equalizing educational opportunities throughout the state. Likewise, in methods of selecting the chief state school officer, the argument is made that better officials would be secured if this office were made appointive.

"The logical guiding principle would seem to be that since constitutional provisions are less subject to change, only those pronouncements which represent a settled policy on the part of the state, and which changing conditions will not readily affect, should be written into the basic law."

PERSONAL NEWS OF SUPERINTENDENTS

♦ Mr. S. M. MILLER has taken up his duties as superintendent of schools at Sterling, Ohio. Mr. Miller had been at Oak Harbor for the past five years. He succeeds R. M. Fosnight, who had gone to Bremen.

♦ Mr. R. A. GILMOUR has been elected principal of the high school at Negaunee, Mich.

♦ Mr. KENNETH H. MACFARLAND, of Sharon, Conn., has become principal of the new Van Rensselaer Junior High School at Rensselaer, N. Y.

♦ The faculty of the department of education of the University of Nebraska has been completed, with the appointment of Mr. L. DALE COFFMAN, Dr. S. M. COREY, and Dr. JOHN M. MATZEN. Dr. Matzen, who has become assistant professor of school administration, was state superintendent of schools from 1920 to 1927. He is a graduate of Millard College at Fremont and the State University, and holds degrees from that institution and from Columbia University. Dr. Matzen takes over the work formerly handled by Dr. F. E. Henzlik, now dean of the teachers' college.

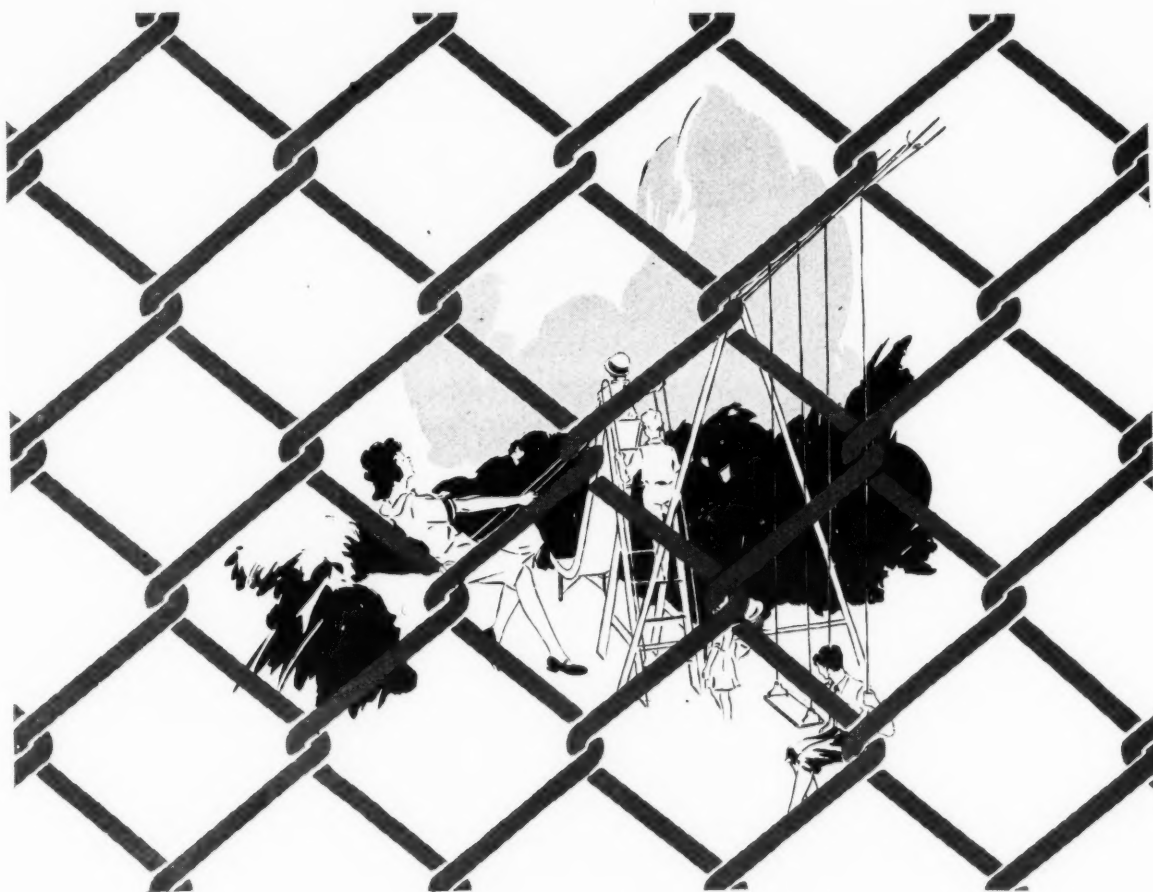
♦ Mr. H. J. ROTHERMEL, of Berwyn, Pa., has become supervising principal of the schools of Willow Grove.

♦ Mr. H. E. BOSLEY has become superintendent of schools at Mt. Vernon, Ill., succeeding Mr. William Miner, who has retired.

♦ SUPT. H. B. ROMAKER, of Liberty Center, Ohio, has received his master of arts degree from Ohio University.

♦ SUPT. L. C. STINGEL, of Ontario, Ohio, has received a degree from Ohio University. Mr. Stingel majored in school administration.

♦ SUPT. E. P. CLARKE, of St. Joseph, Mich., is completing his 32nd year as superintendent of the schools.



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A lot is not a real playground until it is fenced. Then apparatus can be set up and children can use it without fear of molestation from without. We suggest that the fence be a Wickwire Spencer Chain Link Fence for then the protection will be permanent. *Copper Bearing Steel* frame and fabric hot dipped galvanized last longest with a minimum of maintenance. We will gladly send a representative to quote you prices.

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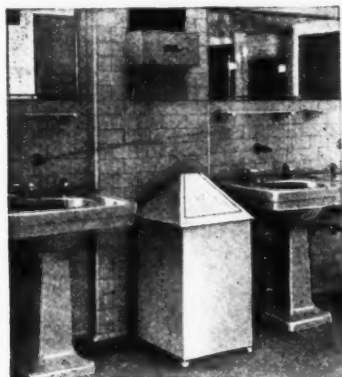
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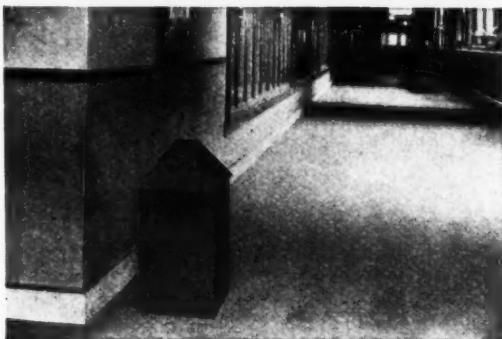
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New Rules and Regulations

SCHOOL-BUS REGULATIONS

♦ Saugatuck, Conn. The school board has adopted new rules governing the transportation of children in busses. The rules which went into effect with the beginning of the school year, relate to the seating capacity of motor vehicles used in the transportation of the children. Under the rules, 14 in. of seat space must be provided each pupil and the weight of the pupils carried must not exceed the manufacturer's maximum carrying capacity of the vehicle. Some of the other regulations are as follows:

Every school bus shall be equipped with at least one exit for emergency use which must be located at the rear of the left side of the body, or in the rear of the body, with minimum clearance of 22 in. horizontal and 48 in. vertical, and be so constructed as to be free of any obstruction that will hinder the exit of passengers. The emergency door must open outward. Emergency door on all school busses shall be equipped with a handle on the outside of the door.

School-bus doors used for regular entrance and exit of passengers shall have a minimum clear opening of 22 in.; if such doors are nonfolding units swung from hinges on one side, the same shall in all cases open outward; if such doors are of the double-hinged folding type they may open either inward or outward. All regular entrance or exit doors must have not less than six lights of glass, each such light to contain not less than 55 square inches. The use of wire or shatter-proof glass is recommended.

Opening of entrance door must be controlled from the operator's seat.

No school bus shall have a door at the left of the driver's seat.

No school bus will be registered which has a minimum head room of less than 60 in.

The longitudinal aisle or aisles in a school bus shall have a minimum clear width of 10 in. A minimum lineal dimension of 14 in. per passenger will be used to determine the seating capacity. Fractional parts of 14 in. on different seats added together will not allow extra seats; there must be allotted to each child 14 in.

All seats in a school bus must be not less than 12 in. deep from front to back.

All seats must have spring cushions not less than 3 in. thick and covered with leather or other material that can be washed.

RULES AND REGULATIONS

♦ The school board of Oneida, N. Y., has adopted the following rules governing the employment of married women teachers:

1. Until further notice, no married women will be appointed to a regular position in the schools.

2. Married women who are at present employed in their probationary term will not be dismissed by reason of marriage, but will be ineligible for permanent appointment.

3. Women teachers who marry hereafter while employed in their probationary term will not be retained beyond the school year during which or prior to which they have been married.

♦ After operating for some years under a three-head system the board of education of St. Joseph, Mo., has unanimously adopted a set of rules and regulations whereby the superintendent becomes the chief executive of the school system. Both the business office and the maintenance department are placed under his control. Supt. F. H. Barbee has been in office two years. Leonard M. Haines heads the business office, and B. M. Castell, as chief engineer is in charge of the maintenance department.

♦ The Detroit board of education has ordered that the following emergency rules be put into effect: 1. To fill vacancies in all departments and divisions without adding new teachers or employees. 2. To call upon such married teachers and employees as might well do so to take a year's leave of absence and to fill such positions through reductions in the central nonteaching divisions. 3. To deduct the pay of a substitute from the teachers'

salary for each of the first 10 days of absence on account of illness. (At present the substitute receives \$7 a day but the balance of the teachers' salary is paid.)

♦ Sioux City, Iowa. The school board has adopted rules to govern the admittance of children to the kindergarten who have not reached their fifth birthday, but who are mentally and physically capable of doing the work. In schools where the kindergarten enrollment is not too large, such children will be accepted under the following conditions:

1. Children whose birthdays fall within the first two weeks of school, August 31 to September 12, inclusive.

2. Pupils whose fifth birthday falls between September 13 and October 12 inclusive, may enter provided they have passed a mental test showing them to be of good mentality, with a physical development to justify their entrance. Such children are permitted to take the examination if their parents desire it.

3. Principals and teachers are not permitted to make any promise of acceptance to the parents of children mentioned above. The psychologist and the nurse are responsible for determining which pupils are capable of doing the work and whether they should be accepted.

♦ The board of education of Flint, Mich., has established a rule against the employment of married women teachers. The exception is for day to day substitutes, and then only when unmarried women are not available.

♦ Beverly, Mass. The school board has revised its rule governing the appointment of teachers. The rule now reads: "All applications for teaching positions shall be submitted by the superintendent to the board. Said applications shall then be filed on appropriate form, giving the date of application, position for which application is made, qualifications, experience, age and address of said applicant, said applications to be kept in a separate file, at all times available to members of the board."

♦ Covington, Ohio. The school board has voted to retain a former rule, requiring that children attending the schools be vaccinated.



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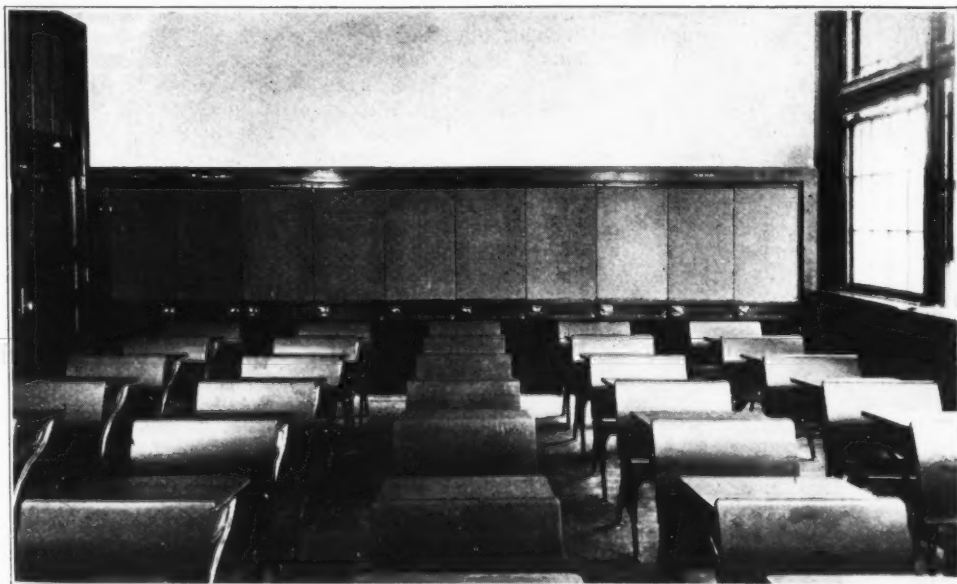
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Teachers' Salaries

TEACHERS OVERPAID

San Francisco, Calif. A complete revision of the payroll rules has been proposed by the board of education, as a result of the recent investigation, which indicated that \$2,000,000 has been mispaid to teachers through laxity and conflicts between board regulations and state law. The city attorney has been requested to prepare new regulations to conform with the state school code.

Among faults which the special auditing committee said it had found in the operation of the department were: Lack of centralized control and authority; confusion of records of teaching and employee personnel; inadequately protected paymaster's records with insufficient check on possible falsifications of payrolls; and conflict between the school department and other branches of the city government. Five persons at present handle the records and payrolls of the teachers and employees, and it is believed that this number could be reduced by a revision of the system.

Shuffling of teachers' names on the payrolls, resulting in further salary overpayments in the school department has been discovered by accountants for the board of education. Cases of teachers being paid higher salaries intended for other instructors were noted. Teachers who had been "short changed" protested and received the amounts to which they were entitled, but the books failed to show where demands were made on their colleagues who had received extra money.

TENNESSEE SALARY SCHEDULE

The state board of education of Tennessee has adopted a salary schedule for county school teachers on which is based the distribution of the equalizing fund as provided in the laws of 1925. The schedule is as follows:

Class A Teachers: Those who have completed a standard four-year high-school course and hold a bachelor's degree from a four-year college. Group certification basal salary — Examination, \$95; per-

manent professional, \$92.50; four-year professional, \$70; limited training, \$65.

Class B Teachers: Those who have completed a standard four-year course, and have in addition not less than 135 quarter-hour credits in an approved college. Group certification basal salary — Examination, \$90; permanent professional, \$85; four-year professional, \$75; limited training, \$65.

Class C Teachers: Those who have completed a standard four-year high-school course, and have in addition not less than 90 quarter-hour credits in an approved college. Group certification basal salary — Examination, \$85; permanent professional, \$80; four-year professional, \$70; four-year training, \$60.

Class D Teachers: Those who have completed a standard four-year high-school course, and have in addition at least 45 quarter-hour credits. Group certification basal salary — Examination, \$70; four-year professional, \$65; limited training, \$55.

Class E Teachers: Those who have completed not less than the equivalent of a standard four-year high-school course. Group certification basal salary — Four-year or permanent examination, \$55; limited training or two-year examination, \$50.

Class F Teachers: Those who have completed less than the equivalent of a standard four-year high-school course. Group certification basal salary — Any examination certificate, \$50.

The rules must be followed to enable the county to receive state aid and standard terms.

TEACHERS' SALARIES

♦ Somerville, Mass. The school board has adopted a report of the finance committee, providing that the salary schedule be so changed that the beginning salary of teachers with the necessary experience, regardless of the school assignment, will be \$1,200, for normal-school graduates without degrees, and \$1,400, for normal-school or college graduates with degrees.

♦ Chicago, Ill. The present financial stringency in the schools apparently did not dampen the spirit of the city's 14,000 teachers. Although they had not been paid, except by scrip, since April, district superintendents reported them enthusiastic for their work. Pres. Lewis E. Myers, of the school

board, estimated that approximately seven million dollars' worth of scrip had been applied for.

♦ Dandridge, Tenn. The school board has voted to adopt a salary cut of 20 per cent for grammar-school teachers, and 15 per cent for high-school teachers. The action was taken in order to finance the grammar schools five months, and the high schools nine months.

♦ Newport, Tenn. The grammar-school teachers have agreed to accept reductions of \$10 in their monthly salary. The action was taken to insure the opening of the schools at the regular time.

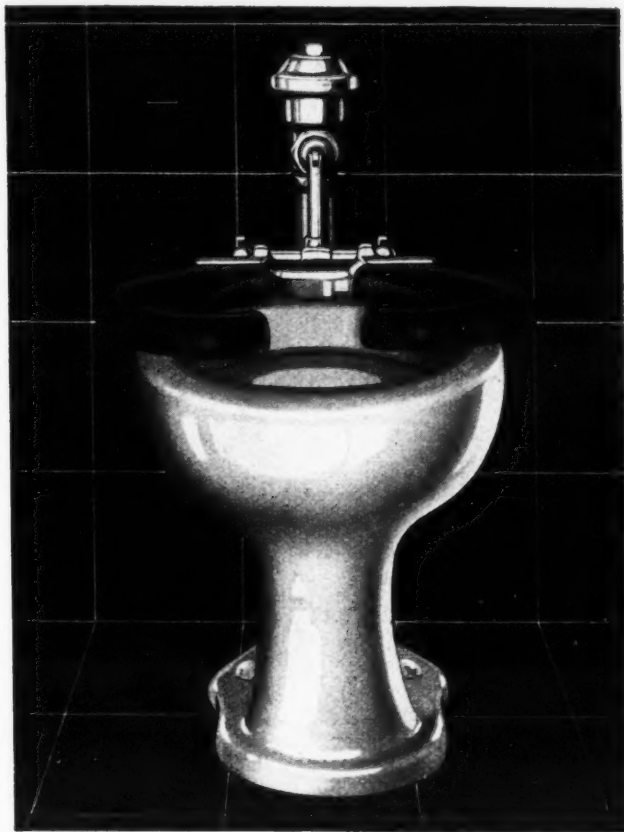
♦ Cedarville, Ohio. As an economy measure, Mr. H. D. Furst, superintendent of schools, has refused to accept a salary increase of \$100, to which he was entitled under his contract. Mr. Furst explained his refusal by the fact that the teachers were not given increases.

♦ The board of education of Ottumwa, Iowa, has adopted a new teachers' salary schedule. The plan which obtains is briefly explained by Supt. Ray F. Hannum, as follows: "Our teachers are on a nine and one-half months' contract, but paid by the calendar month in twelve installments. Deductions have been made in the past on the basis of the calendar month, rather than on the contract monthly salary. We allow five days' absence with no salary deductions, and ten more at half salary. In the future, these ten days at half salary will be deducted as before on the basis of the calendar month, but after the fifteenth day the deduction is to be on the basis of the contract salary. In other words, after the fifteenth day all salary will cease, while formerly teachers drew the difference for as long as they were absent."

♦ Cincinnati, Ohio. The school board has discussed the problem of raising the fund for proposed increases in teachers' salaries. The problem confronting the board is whether the new tax duplicate will be sufficient to permit the inclusion of an appropriation of \$277,000 in the budget. Should the tax duplicate prove insufficient, it may be necessary to call for a special tax levy.

♦ East Liverpool, Ohio. Teachers' salaries have not been reduced, but a salary cut has been averted by means of economies in other departments.

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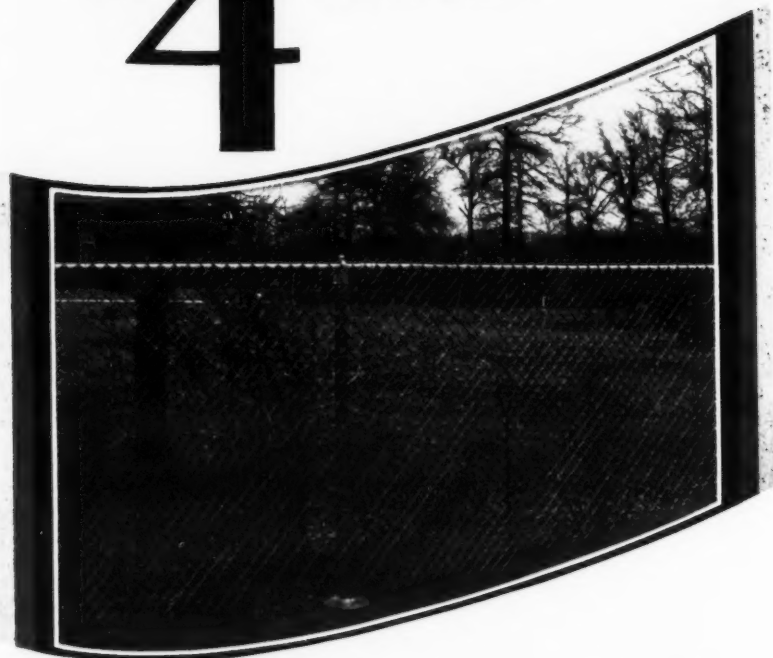
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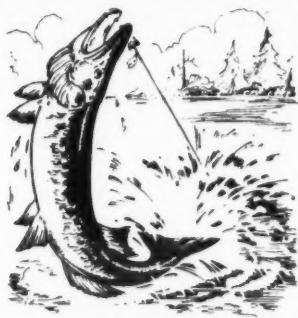
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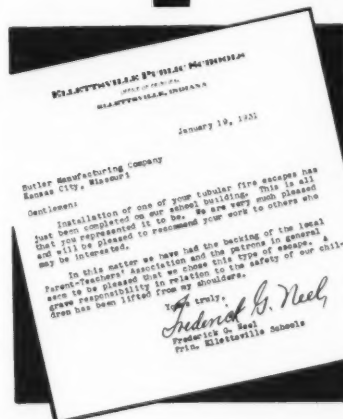
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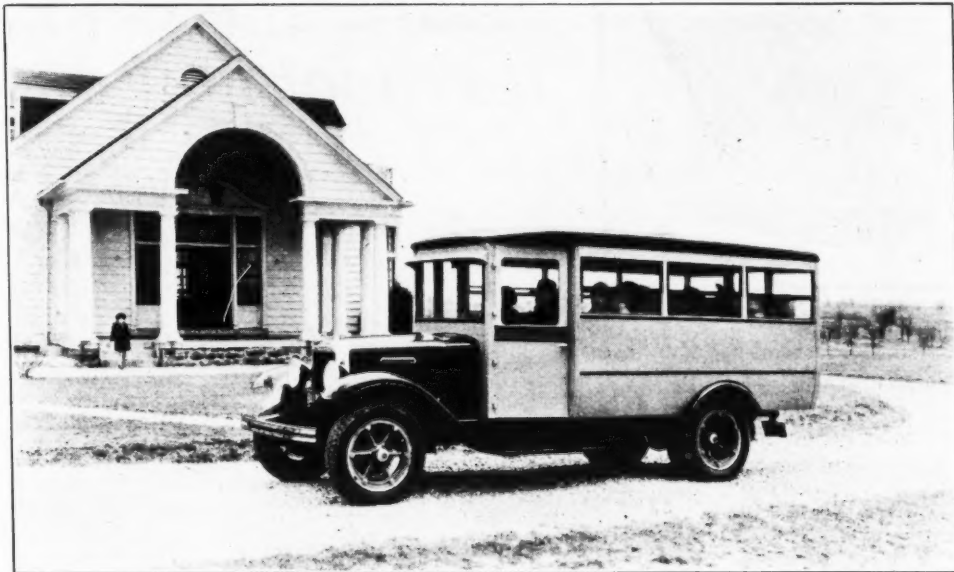
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School Building News

SCHOOL-BUILDING COSTS IN MICHIGAN

The question of school-building costs recently came up at Grand Rapids, Mich., where a committee of the board of education proceeded to make a thorough study of the subject.

Comparative data on four high schools presented showed the cost per cubic foot of Ottawa Hills High School was \$.282 for the main building and \$.273, \$.245, and \$.275 for the subsequent additions.

Other schools were as follows: East Grand Rapids High, \$.2855; Northern High at Flint, \$.3776 and Cooley High at Detroit, \$.36. Per pupil costs for these schools were: Ottawa Hills, \$.473.14; East Grand Rapids, \$.548.07; Northern High at Flint, \$.283.83; Cooley High at Detroit, \$.581.43. Cubical contents of the buildings are: Ottawa Hills, 3,931,400; East Grand Rapids, 1,543,000; Northern, 1,543,000; Cooley, 4,265,410. Pupil capacity at Ottawa is 2,288; East Grand Rapids, 852; Northern, 2,085, and Cooley, 2,600.

Construction costs were as follows: Ottawa Hills, \$1,082,563; East Grand Rapids, \$466,958; Cooley, \$1,511,739; Northern, \$591,791.

Compilations on grade schools showed the following facts: Total costs, Aberdeen, \$243,016; Eastern, \$288,568, and Sibley, \$229,832, all Grand Rapids schools; Halley, \$335,190, and Marshall, \$352,566 at Detroit; Pierson, \$304,664, and Coolidge, \$218,060 at Flint; Longfellow, \$236,324, and Whittier, \$240,811, at Pontiac; Woodward at Kalamazoo, \$200,288; Jefferson, \$258,463, and Washington, \$162,716, at Battle Creek. Highest per-pupil costs were Jefferson at Battle Creek, \$615.39, Washington at Battle Creek, \$516.55, and Aberdeen at Grand Rapids, \$405.02. The lowest per-pupil cost was Marshall school at Detroit, \$259.24. The two Grand Rapids grade schools were lowest in cubical-content cost, Aberdeen costing \$.275 per cubic foot and Eastern \$.295. All other schools ran \$.30 to

\$.416 with the exception of Woodward at Kalamazoo, which was built directly by the board at a cost of \$.286. All the schools in the class around \$250,000, except the two Battle Creek schools, provide for capacities of 600 and 800. Battle Creek Jefferson has a capacity of 420 and Battle Creek Washington, 315.

All the schools are equipped with auditoriums or assembly rooms and gymnasiums varying from 200 to 500 capacity for the auditoriums. Eastern is the only school equipped with a passenger elevator. This building is equipped also as an orthopedic school.

In other details the construction, materials, and equipment are quite similar. Coolidge school at Flint and the Eastern school both are constructed with structural steel and reinforced concrete frames. Woodward at Kalamazoo is constructed with steel and concrete. All exteriors are of brick and as in the high and junior high school of Grand Rapids has been lavish with trim, the estimated costs being \$11,900 at Aberdeen, \$9,760 at Eastern, and cut stone at Sibley, which was built in 1921-22, \$17,109. Other schools which reported were Pierson and Coolidge at Flint, \$3,500 and \$2,500 respectively. In the other schools it is not separated from general contract so no comparison was available.

"Cheap" Building Expensive

"Manifestly an intelligent comparison of the costs of school construction demand an analysis of the type of construction used and the facilities and equipment provided. A cheap building may show up well in the cost per cubic foot and cost per pupil, but when considering the shorter life of the building and the higher cost of maintenance, the so-called "cheap" building probably would be the most expensive type to construct from a long-range point of view.

"Costs per cubic foot are influenced measurably by the arrangement of the building. That is, a three-story building of compact arrangement will cost less per cubic foot than a one- or two-story building spread out so as to give ample light and air to all rooms.

"It must be apparent therefore, that it is extremely difficult, if not impossible, to select any

'yardstick' of measurement that will permit of making accurate comparisons of school costs.

"The committee made no attempt to prepare a detailed analysis of the data given on the tabulation, feeling that it was better to let the figures speak for themselves."

BUILDING NEWS

♦ North Mankato, Minn. During the past year, the school board carried out a complete appraisal of all school property. Following the appraisal, the insurance was changed to the coinsurance plan, with a substantial saving to the school district. Changes in the buildings based on the recommendations of the insurance-rating bureau were carried out, which resulted in a further reduction of the insurance rate sufficient to pay for the improvements within a few years, and offering safety to the occupants of the buildings.

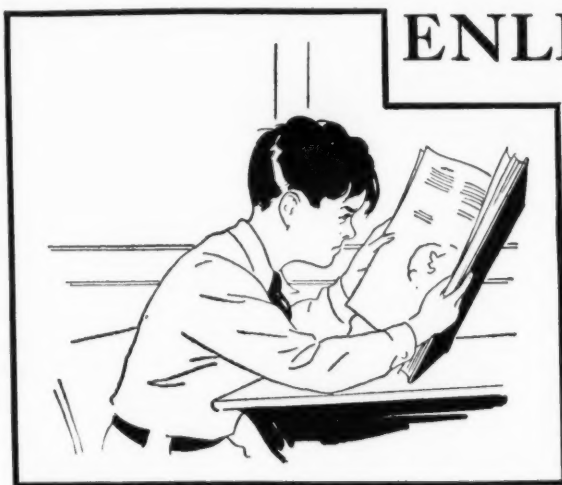
During the year, 10 classrooms were refinished, with as many types of floor treatment. The experiment in finishes proved of material aid in selecting the treatment to be applied to floors during the summer months. The experiment aroused a good deal of interest among the schoolmen of the state and brought inquiries regarding the results obtained with the various finishes.

♦ Maysville, Ky. The school board has completed the erection of four school buildings, comprising a ward school, a colored school, a gymnasium, and an auditorium.

♦ Youngstown, Ohio. Although the 1932 school budget will provide approximately the same amount for capital outlay as last year, there is no provision for any new buildings during the school year. The money provided in the last budget for capital outlay was used to absorb shortages resulting from tax delinquencies.

♦ Brockport, N. Y. The voters have approved a bond issue of \$425,000 for the construction of a school.

♦ San Francisco, Calif. Mayor Rossi has co-operated with J. M. Gwinn, superintendent of schools, and the board of education, in a comprehensive plan for making immediately available more than \$1,450,000 for unemployment relief and for giving the city fine school buildings. Under the



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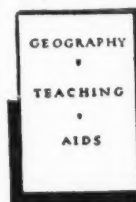
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proposed plan, 16 new schools would be provided through the city. The sum of \$1,100,000 would be taken from the current budget for new buildings, an additional sum of \$350,000 would be obtained by waiving for one year back-salary payments of teachers, and the remainder would be obtained from a bond issue of \$5,000,000 or \$6,000,000 to be submitted to the voters at the November election.

♦ Gatesville, Tex. The entire school plant was renovated during the past summer.

♦ St. Cloud, Minn. The Wilson School, erected at a cost of \$800,000, was occupied on September 8. The building is intended for pupils of grades one to six, and contains the regular classrooms, a library, an auditorium-gymnasium, and a fully equipped kitchen.

The Wilson School is the third new grade school to be erected within the past two years. A junior high school has also been erected, at a cost of \$200,000. The erection of these buildings was made necessary by the constantly increasing enrollment in both the grade and high schools.

♦ Mansfield, Ohio. In connection with its proposed economy program, the school board has ordered a curtailment of social activities, particularly in the junior and senior high schools.

♦ Chicago, Ill. The public schools opened on September 8, with almost 62,000 children housed in irregular accommodations, due to a lack of available classrooms. Although there are several buildings under construction, and plans are in operation for an extensive building program, building has been practically at a standstill because of the board's inability to pay its debts, except by scrip. The actual seat shortage is 61,977, with 28,000 in portable buildings, and 25,000 on half-day sessions. The elementary grades have the largest seating shortage.

♦ Marlboro, Mass. The school board is erecting a 16-room school, at a cost of approximately \$160,000. The erection of this building means the completion of a 15-year replacement program which is to provide adequate school facilities for all the children of the city.

♦ Cincinnati, Ohio. C. W. Handman, business manager of the city schools, and his staff, completed a number of building projects during the va-

cation period. The two major projects of the department were the completion of the Walnut Hills High School and the Oyler School, which were opened to pupils with the opening of the schools on September 8. Other buildings to be erected during the present school year are the new Bond Hill School on the site of the old building, and an annex to the Pleasant Ridge School.

Other jobs completed included whitewashing, boiler repairs, roof repairs, plumbing, electric wiring, laying of linoleum, and installation of lockers. The boys of the industrial-arts department, under the direction of Mr. E. W. Christy, made many pieces of furniture to be used in the school plant. Nearly 6,000 high-school books were repaired.

♦ The new Van Rensselaer Junior High School just opened at Rensselaer, N. Y., is believed to be the latest word in school construction.

♦ New York, N. Y. With the opening of the new school term on September 22, nine new buildings and additions, including the Grover Cleveland High School in Queensborough, and the Hermann Ridder Junior High School in the Bronx, were opened for use. The total estimated cost of the new buildings was in excess of \$5,000,000 and the total seating capacity was 12,000.

♦ Hancock, Mich. The auditorium and gymnasium of the high school have been completely redecorated during the summer.

♦ Webster City, Iowa. The school board has effected a saving of approximately \$400 annually through the assistance of a local insurance agency in arranging a more evenly balanced insurance program for school buildings. Formerly, the school board has paid a large premium on various insurance policies one year, and the next the sum due would be much less. It was the purpose of the board to provide a more constant annual premium payment. A check of the buildings was made with the result that the buildings were believed to more than meet the requirements for the premiums paid, and a small reduction was made in the rate.

♦ Greenfield, Mass. The office of supervisor of secondary education has recently been created, with Mr. R. A. Lawrence as director. Mr. Lawrence's duties will consist of the supervision of all phases of instruction and guidance in the junior and senior

high schools. The principals' duties will be of an administrative character, dealing with records, attendance, discipline, extracurricular activities, and assemblies.

BURGLARIES AND VANDALISMS IN SCHOOLS

Mr. L. E. Meyers, president of the Chicago board of education, has received from the chief engineer, Mr. John Howatt, a report, showing the number of burglaries and vandalisms in the schools for the years 1929, 1930, and the first six months of 1931, by months, giving the number of burglaries in the schools, the number of arrests, the number of convictions, the estimated property loss, and the value of the property recovered.

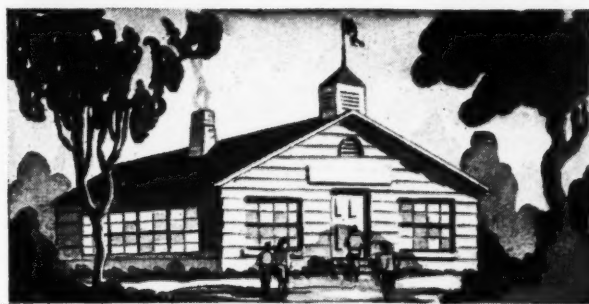
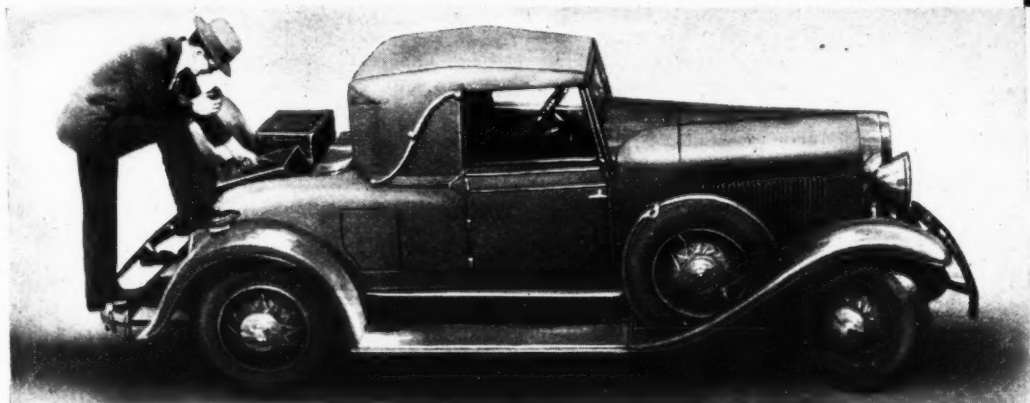
The largest property loss was \$4,199 in August, and the smallest was \$10 in July. The largest number of burglaries and vandalisms committed was 108 in September, and the smallest number was 8 in July. The largest number of arrests was 82 in September, and the smallest was 15 in February. The largest amount in the value of property recovered was \$1,438, and the smallest was \$108. The total number of burglaries and vandalisms during the period amounted to 759, the number of arrests was 545, the total property loss was \$13,422, and the value of property recovered was \$10,075.

During the first six months of the year 1931, there were 531 burglaries and vandalisms, as compared with 765 in 1930. The number of arrests was 287, as compared with 378 in 1930. The property loss was \$18,428, as compared with \$13,928 in 1930, and the value of property recovered was \$8,020, as compared with \$8,166 in 1930.

♦ Mr. F. C. Croxton, assistant director of the President's organization for unemployment relief, has recently issued a statement, giving the names of organizations and individuals who are offering cooperation in trying to help meet the great need for student loan and aid funds. The list names the general funds for men and women students, for women students, and also vocational service for juniors who are being kept in school through special student-aid funds.

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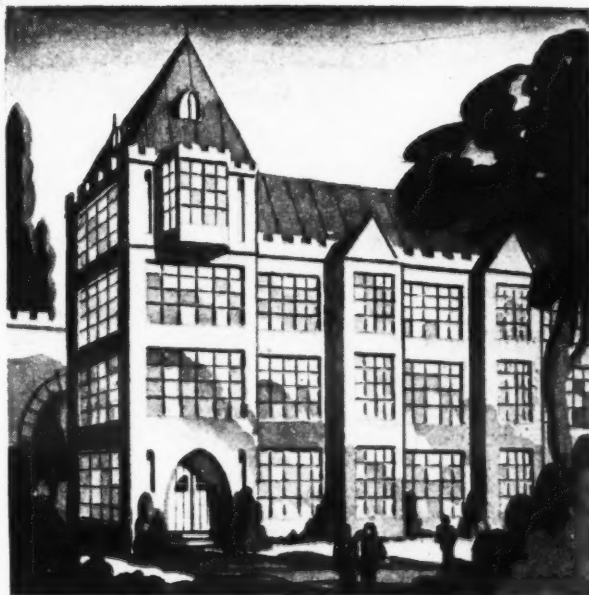
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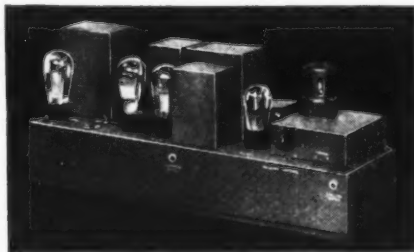


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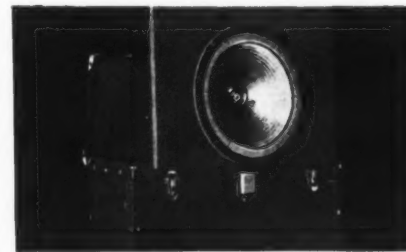
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Book News and Reviews

Direction and Coördination of Supervision

By Wm. G. Brink. Cloth, 132 pages. Price, \$1.50. The Public School Publishing Company, Bloomington, Ill.

This book is based on a statistical study carried on by the author in 1929, and seeks to establish an efficient set-up for supervision in cities ranging in population from 25,000 to 100,000. The author holds quite naturally that the superintendent of schools should be responsible for the general direction and coördination of the work of the supervisors. He should have direct relation with the elementary- and the high-school principals, and through these should supervise the instructional work of the elementary- and high-school teachers. The general and special supervisors should not be expected to represent the superintendent directly in the supervision of teachers, but should be considered assistants to the principals insofar as the latter have not the time or the special training for solving special problems that arise from time to time. The supervisor of the so-called special subjects will, under this arrangement, not be permitted to act independently of the principal.

The author found that only 8 per cent of the elementary-school principals and 29 per cent of the high-school principals are completely responsible for the instructional system and results in their buildings. In some cases elementary principals work under the direction of the general supervisor in matters pertaining to supervision, and in most communities they have no responsibility for the supervision of music, manual arts, and physical education. This situation is evidently an outgrowth of the time when these subjects were first introduced and when principals had been trained to understand only the organization and the instructional methods in the so-called regular academic subjects.

In studying the superintendent's own work as a personal supervisor, the author found:

"The study of the current practices of superintendents in direct and personal supervision revealed the fact that the majority of superintendents engage in direct supervisory activities primarily in order to assist teachers in their work. In 40 per cent of the schools visited, superintendents stated that they spend at least 50 per cent of their time visiting teachers. Some of them spend even more time in the classroom, while others spend less. The purposes for which they visit teachers are largely for inspection of the pupils' work, for rating of teachers, and for assisting teachers in such matters as methods of teaching, the selection and organization of subject matter, and adaptation of instruction to individual needs. In view of the fact that the superintendent has several assistants in supervision, it would appear pertinent to ask why it should be necessary for him to engage in practically the same activities as those delegated to supervisors. Does it not appear that the superintendent's responsibility should be confined largely to the general direction and coördination of all the activities of supervisors? This, of course, would not imply that he should not remain in close touch with the classroom and the problems of teaching itself. It would mean rather a change of emphasis in the purposes for which superintendents engage in direct and personal supervisory activities. In the proposed plan, the superintendent would engage in these activities chiefly in order that he might more effectively assist his supervisors in their activities as a result of his intimate acquaintance with the entire teaching situation."

Superintendents will find many helpful ideas scattered through the book.

High-School Schedule of Recitations

By Roswell C. Puckett. Cloth bound, 164 pages. Price, \$1.80. Published by Longmans, Green and Company, New York, N. Y.

This book deals with the method of making a high-school schedule of recitations. The author makes a distinction between a students' program and the technique that should go into a fixed schedule.

After dwelling upon the importance of bringing the recitations into schedule form, the author digs into the problem of guidance in schedulismaking.

The factors to be considered are analyzed and recorded, the problem of conflicts is discussed, and the various methods of schedulismaking are described.

Business Management in School Systems of Different Sizes

By M. R. Brunstetter. Cloth, 136 pages. Published by Bureau of Publications, Teachers College, Columbia University, New York City.

This volume constitutes a study of certain aspects of school business management in nine New Jersey cities. There are many problems and procedures which apply alike to large and small school systems. The author seeks to note the difference which exist between them, and to demonstrate the fact that the smaller may profit by the progress made by the larger. On this score he says:

"Authorities in school business management, finding the highest development in the large systems, have naturally urged the small systems to accept, as extensively as possible, the business procedures of larger organizations. Small-school administrators, on the other hand, are apt to maintain that their problems and facilities are so different from those of the large cities, that wholesale adaptation of large-city business management would be a waste of time and effort."

He adds: "The literature in the field of school business management includes authoritative books which set forth fundamental principles and procedures recommended as standard. Little effort has been made, however, to adapt these procedures to school systems of different sizes by analyzing the varying needs and establishing standards of use."

He then bases his studies on the larger communities, having a population between 100,000 to 150,000; medium, population from 10,000 to 20,000; and the smaller with a population of from 2,500 to 5,000.

The criteria which lays down for school bodies of all sizes cover budgeting procedure, financial accounting, property accounting, financial safeguards, insurance, etc. Under criteria he discusses timeliness, economy, comprehensiveness, educational emphasis, system, standardization, data control, safeguards, specialization, proper working conditions, flexibility, and law observances.

The chapters which follow, deal with accounting activities, protection of funds and property, construction, repair and operation of school buildings, analysis of payroll and supply management procedures, and office management.

Following each chapter the author presents a summary in which he makes clear the differences which arise in the management of a large and a small school system. The final chapter which concerns itself with findings and conclusions is most illuminating and helpful.

Robbers in the Garden

By Marion Bullard. Cloth, 100 pages. E. P. Dutton & Company, New York, N. Y.

Three mysterious animal robbers are the villains and three brave animal defenders of the garden and house are heroes of this story. Plot, language, and illustrations make the book of especial interest to second and third graders.

The Blue Junk

By Priscilla Holton. Cloth, 192 pages, illustrated. Longmans, Green and Company, New York, N. Y.

The story of the adventures of an American girl in China. This book is a thriller for boys and girls, of the finest literary type.

Essential Language Habits

By W. W. Charters, E. M. Cowan, and Annette Betz. Volume I. Cloth, 277 pages. Silver, Burdett & Co., Newark, N. J.

A revised edition of a popular book for the middle grades.

Problems in School Supervision

George C. Kyte. Cloth, 214 pages. Houghton Mifflin Company, Boston, Mass.

Thirty-three major problems are outlined for class study by advanced groups.

Supervision of Instruction in High School

By J. M. Hughes and E. O. Melby. Cloth, 207 pages. Price, \$1.50. The Public School Publishing Company, Bloomington, Ill.

Supervision of teachers in the high school involves problems that have grown at a far greater rate than even the enrollment of our secondary schools. The teaching of high-school subjects has involved so many special techniques that few principals indeed have been willing to actively supervise all or even a majority of the teachers in their respective institutions. Supervision which has for its objective the immediate improvement of teaching, and which is based on the direct types of technique used in the elementary school, has been rare indeed in the high school.

The present study, which is largely exploratory and statistical, aims to determine the nature and status of supervisory practices in a number of selected high schools. In its most useful chapters it sets up an evaluation of these practices and suggests techniques which are readily applicable to medium-sized and large high schools.

The authors hold that supervisory assistance should come as a result of a felt need for assistance on the part of a teacher. The supervisor's first function, as based on this assumption, is that of stimulating those teachers who feel that they are lacking in some respect and who desire help. Just here the difficulty is that those teachers who most commonly feel their shortcomings are the brightest and most forward-working, while the teachers who are actually in greatest need of stimulation and help are those who are either unconscious of their need or are so set in their ways that they are unwilling to accept suggestions. The first problem of the supervisor is to make all teachers realize that they have shortcomings, that they need assistance, and that they can and desire to improve in their work.

The authors suggest that high-school teachers require individualized help to overcome individual differences and difficulties. This help is not to be limited to merely problems of teaching method and discipline, but should extend to help in selecting materials of instruction, to discovering individual differences in pupils, and to solving curriculum problems.

The authors are wise in not suggesting a definite type of high-school organization for supervision. The inherent difficulties arising from local situations all suggest that each school and each principal must develop one or other of the various general types of supervisory plans and must adjust this to the exact situation under which the school is conducted. It seems clear to the authors that the supervisory techniques should be kept free so far as possible from the inspectorial duties of the principal. The best supervision should rely to a considerable extent upon the supervisory aids which can be given by experts in the field covered by the respective departments and teachers. Perhaps the most helpful chapter in the book is that which suggests improvement of teachers through direct activity analysis.

(Concluded on Page 84)



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 FH10 SAFEGUARDING PUBLIC HEALTH.
 FH11 SAFETY FIRST AND FIRST AID
 FH12 THE PREVENTION OF DISEASES

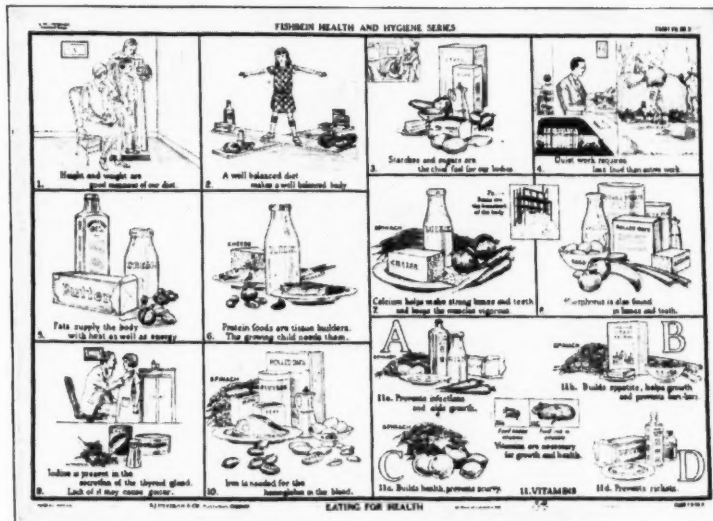


Chart No. 3 Eating for Health.

About The Author—

DR. Wm. I. Fishbein, B.S., M.D., author of this series of Health and Hygiene Charts, has charge of health and hygiene in the elementary school of the Department of Education at the University of Chicago. He is also assistant to Dr. Herman Bundesen, Health Editor of the Chicago Daily News, and Commissioner of Health, City of Chicago.

In 1926-27 Dr. Fishbein collaborated with Dr. I. A. Abt in the preparation of the Year Book of Pediatrics which treats the hygiene and diseases of children.

The comprehensive manual accompanying these charts is the work of the author. It is scientifically written, yet in such simple language that it may be easily understood by any one without technical training.

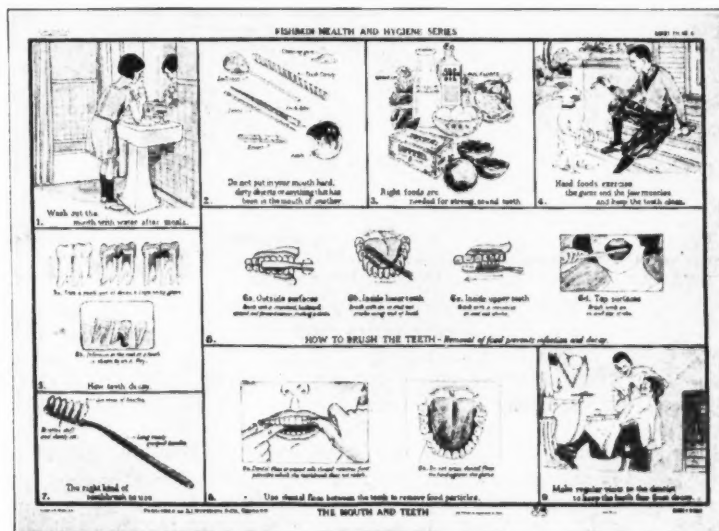


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(Concluded from Page 82)

The Art of the Child

By Alfred G. Pelikan, M.A. Cloth, 123 pages. Price, \$3. Published by The Bruce Publishing Company, Milwaukee, Wis.

This attractive volume is designed to stimulate the creative ability in the field of art. The author, who is the director of art in a large city school system, has drawn upon long years of experience and brought to his service an abundance of suggestive, interesting, and helpful material. The master hand is in evidence on every page.

In the choice of subject matter the seasons of the year, special holidays, are recognized. The illustrations not only excite deftness in drawing but also stimulate greater interest in the social science, in history, geography, and travel, and the things that enhance civic pride.

Throughout the book the creative element is fostered. Two phases of artwork are represented, each with a definite but different aim: The one is an expression of ideas in pictorial form without any or little aid from the teacher. The function of the teacher here is to stimulate the imagination of the child to such an extent that there will result the urge to record graphically some of the ideas which are too difficult and involved to express in writing or in the spoken word.

Another phase of the work is so-called construction work, in which the aim is to teach the children to follow directions, to learn accuracy through actual application, and to carry through a chosen problem in a more finished manner.

Jean & Fanchon

By Virginia Olcott. Cloth, 176 pages. Price, 80 cents. Silver, Burdett & Co., Newark, N. J.

This is the story of the travels of two French children to the great city of Paris, to the rural districts where they see olives harvested and prepared for market, to the little city of Lyon where silk is grown and woven, to Breton coast from which the fisher fleets set out to catch tuney and sardines. Along the route, the children see fields and farms, enjoy rural festivals and fairs, and hear folk tales and songs. The book is written in an enthusiastic, intimate vein, with a bit of humor, that fascinates children.

Illustrator and typographer have caught the spirit of the book and have added much to its charm.

Stories of the States

By Nellie Sanchez. Cloth, 8 vo., 390 pages. Price, \$2.50. Thomas Y. Crowell Company, New York, N. Y.

These sketches of the states and territories of the United States, include the facts of the discovery and settlement of each, an account of some thrilling decisive incident, an explanation of the name, and various interesting and useful data. Elementary and junior high schools will find the book a useful reference.

A Guide to Good Pronunciation

A Rapid Vocabulary Builder

Common Errors in English Corrected

By Charles B. Anderson. Cloth. D. Van Nostrand Company, New York.

A Guide to Effective Writing

Grammar at a Glance

By Peter T. Ward. Cloth. D. Van Nostrand Company, New York.

A Guide to Effective Speaking

By Arthur W. Riley. Cloth. D. Van Nostrand Company, New York.

These six books are intended to provide a general library in English for home and school use. The authors are practical, widely experienced instructors at Columbia University, and the volumes have grown out of teaching in the classroom and in correspondence courses.

In *A Guide to Good Pronunciation* the author has arranged in alphabetical form some 5,000 commonly used words which frequently cause trouble. In *A Guide to Effective Writing* the basic problems of writing letters are presented with typical illustrative material. Literary writing is very briefly explained.

Grammar at a Glance is an exceedingly brief but progressive statement of rules and accepted practices, with exercises which may be carried on with the aid of a practical self-testing plan. This book is really the heart of the series.

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type of semipublic and private speaking—salesmanship. In *Common Errors in English Corrected* the reader has a comprehensive list of current errors. A section of the book is devoted to lessons in self-correction. *A Rapid Vocabulary Builder* is a well-arranged handbook of synonyms and antonyms.

The Science of Plant and Animal Life

By Mae Johnson Corwin and Walling Corwin. Cloth, 592 pages. Published by Harr Wagner Publishing Company, San Francisco, Calif.

This book combines many of the best ideas of the old subject, "nature study," as taught fifteen years ago, with a very simplified and distinctly modern course in applied biology. The work is intended for children of junior-high-school age and is to provide a year's work in a three-year course that is to include a year of physics and chemistry, and a year of personal hygiene and health.

The subject is presented in five major sections: (1) science and the cell; (2) seed-bearing plants; (3) spore-bearing plants; (4) the animal kingdom; (5) agronomy. The sections are divided into units or projects, followed by suggestions for things to do, experiments, and references.

The work is surprisingly comprehensive. Plants, insects, larger animals have been described from the standpoint of their significance in nature and human economy, and also because of their interest to children. Throughout the style is simple and clear, and the approach is a challenge to pupils to observe and to study.

In a few instances, California situations have been perhaps overemphasized, and farm and forest conditions in the East and South have been neglected.

Self-Teaching Spelling Tablet

Books I, II, and III. By Jesse E. Adams. Price, 16 cents, each. Silver, Burdett & Company, New York.

These books are arranged so that the children may record in the first column the words to be spelled, in the second column the words misspelled, and in the third column the corrected words.

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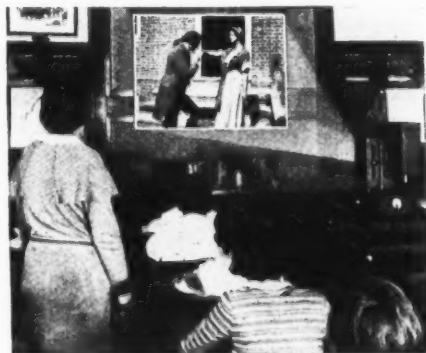
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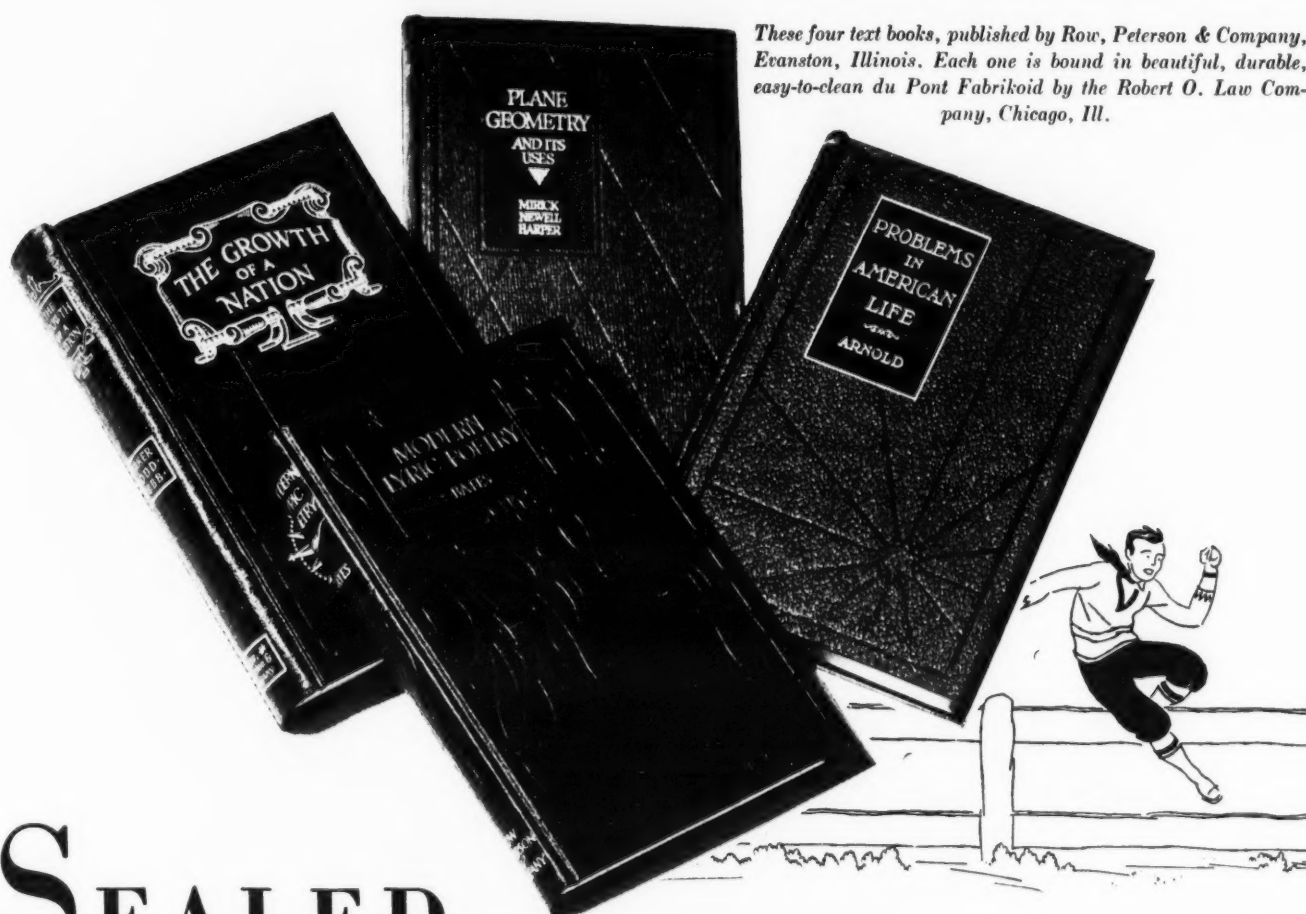
SCHOOL ENROLLMENT IN SEPTEMBER, 1931

	Population	1930 Enrollment	1931 Enrollment	% Increase or Decrease
CALIFORNIA				
Los Angeles	1,238,048	239,117	244,766	2.3
Riverside	29,696	5,866	6,294	6.8
COLORADO				
Denver	287,861	42,061	44,204	4.8
ILLINOIS				
Bloomington	30,930	4,530	4,548	0.4
Danville	36,765	7,628	7,760	1.7
Moline	32,236	5,277	5,316	0.7
Quincy	39,241	5,317	5,403	1.6
Rockford	85,864	13,803	13,889	0.6
Waukegan	33,499	6,324	6,361	0.6
Decatur	57,510	10,691	10,801	1.0
INDIANA				
East Chicago	54,784	8,961	9,323	3.8
Evansville	102,249	14,194	14,405	1.4
Fort Wayne	114,946	16,276	15,163	-6.7
Indianapolis	364,161	55,550	55,900	0.6
Kokomo	32,843	6,196	6,275	1.2
Michigan City	26,735	3,934	4,105	4.1
South Bend	104,193	16,704	16,883	1.1
IOWA				
Burlington	26,755	4,541	4,673	2.1
Cedar Rapids	56,097	9,741	9,113	-6.4
Clinton	25,726	3,483	3,496	0.4
Sioux City	79,183	14,947	15,462	3.3
Waterloo	46,191	3,928	3,986	1.4
MASSACHUSETTS				
Arlington	36,094	6,146	6,167	0.3
Beverly	25,086	4,517	4,597	1.7
Brockton	63,797	10,995	11,119	1.5
Chicopee	43,930	6,929	6,712	-3.1
Everett	48,424	9,085	9,110	0.2
*Holyoke	56,537	7,399	6,972	-5.7
New Bedford	112,597	17,601	17,632	0.2
Newton	65,276	10,294	10,716	3.9
Quincy	71,983	13,803	14,339	3.7
Springfield	149,900	28,337	28,772	1.6
Taunton	37,355	6,416	6,622	3.1
MICHIGAN				
Battle Creek	43,573	1,000	1,072	7.2
Flint	156,492	30,135	30,586	1.4
Jackson	55,187	7,421	7,399	-0.3
Kalamazoo	54,786	9,584	9,833	2.5
Muskegon	41,390	8,326	8,165	-1.9
Saginaw	80,715	14,198	15,114	6.7
MINNESOTA				
*Duluth	101,463	7,012	7,518	6.7
St. Paul	271,606	38,372	38,719	0.8
MISSOURI				
Kansas City	399,746	61,866	62,355	0.8
St. Joseph	80,935	11,580	11,709	1.1
Springfield	57,527	10,929	11,032	0.9

*High school only — Elementary attendance erratic due to polio.

*Elementary attendance not yet compulsory, due to prevalence of polio.

NEW JERSEY				
Atlantic City	66,198	9,991	10,291	2.9
Montclair	42,017	7,481	7,603	1.6
New Brunswick	34,555	6,089	6,303	3.4
Orange	35,399	7,192	7,494	4.0
NEW YORK				
Albany	127,412	14,137	13,566	-4.0
Jamestown	45,155	8,621	8,763	1.7
Niagara Falls	75,460	15,513	16,053	3.3
Rochester	328,132	50,450	51,244	1.5
Rome	32,338	5,297	5,498	3.6
NORTH CAROLINA				
Durham	52,037	10,152	10,068	-0.8
High Point	36,749	7,279	7,722	5.7
Winston-Salem	75,274	13,399	14,244	5.8
OHIO				
Canton	104,906	20,589	20,934	1.6
Cincinnati	451,160	55,690	55,713	0.0
Circleville	7,369	1,477	1,598	7.0
Cleveland	900,429	142,925	143,197	0.2
Cleveland Heights	50,945	8,677	8,727	0.6
Columbus	290,564	41,576	42,008	1.0
Dayton	200,982	33,336	34,287	2.7
Hamilton	52,176	7,529	7,525	-0.0
Lakewood	70,509	10,799	10,652	-1.4
Lorain	44,512	8,237	8,314	0.9
Norwood	33,411	3,652	3,750	2.6
Springfield	68,743	11,570	11,798	1.8
Steubenville	35,422	6,094	6,188	1.6
PENNSYLVANIA				
Bethlehem	57,892	11,195	11,303	0.9
Chester	59,164	9,595	9,790	1.9
Johnstown	66,993	13,647	13,765	0.9
Lancaster	59,949	9,487	9,637	1.6
Lebanon	25,561	4,359	4,563	4.4
New Castle	48,674	10,595	10,870	2.5
Sharon	25,908	5,319	5,417	1.8
Williamsport	45,729	8,308	8,413	1.2
York	55,254	9,475	9,847	3.8
TEXAS				
Port Arthur	50,902	7,309	6,968	-4.6
San Antonio	231,542	29,567	33,500	1.1
Wichita Falls	43,690	9,154	9,234	0.8
UTAH				
Ogden	40,272	10,325	10,743	3.8
Salt Lake City	140,267	29,967	31,139	3.7
VIRGINIA				
Newport News	34,417	6,609	6,986	5.1
Petersburg	28,564	6,032	6,080	0.6
Richmond	182,929	31,478	32,107	1.9
WASHINGTON				
Seattle	365,583	58,716	60,532	3.0
WEST VIRGINIA				
Clarksburg	28,866	4,630	4,530	-2.2
Parkersburg	29,623	6,346	6,274	-1.1
WISCONSIN				
Milwaukee	578,249	74,677	77,828	4.1
Oshkosh	40,108	5,902	6,014	1.8
Racine	67,542	12,129	12,349	1.7
Superior	36,113	6,784	6,787	0.0
West Allis	34,671	6,563	6,766	3.0



These four text books, published by Row, Peterson & Company, Evanston, Illinois. Each one is bound in beautiful, durable, easy-to-clean du Pont Fabrikoid by the Robert O. Law Company, Chicago, Ill.

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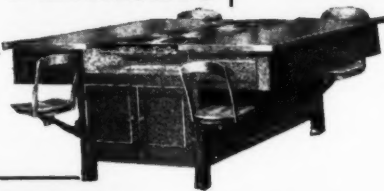


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Perhaps it's New Furniture

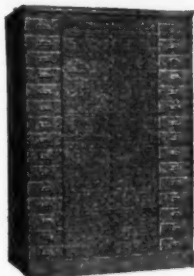
—Not New Buildings—
Your Schools Need!



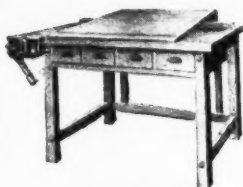
Crowded Schools Find Kewaunee Furniture Solves the Problem

Perhaps your science classes use more rooms than necessary—perhaps the domestic science, manual training and art classes do not use their classrooms every period. Maybe the furniture is to blame—old fashioned and space wasting—often the cause of crowded conditions.

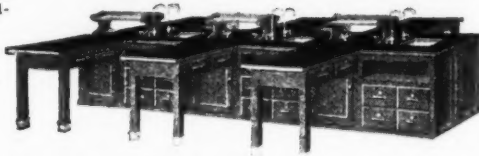
Kewaunee Furniture is designed to accommodate the maximum number of pupils in the space provided. It allows every period use of all classrooms. The addition of a few pieces of new Kewaunee Furniture, supplemented by some of your present equipment, may end the crowded condition and make a new building unnecessary. A Kewaunee Engineer can tell you quickly whether or not a new building is needed. We will send a Kewaunee Engineer to your school on request and without cost or obligation on your part. Write direct to our Kewaunee office.



Tool and Board Case
No. L-2072



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Lincoln Science Desk No. D-503

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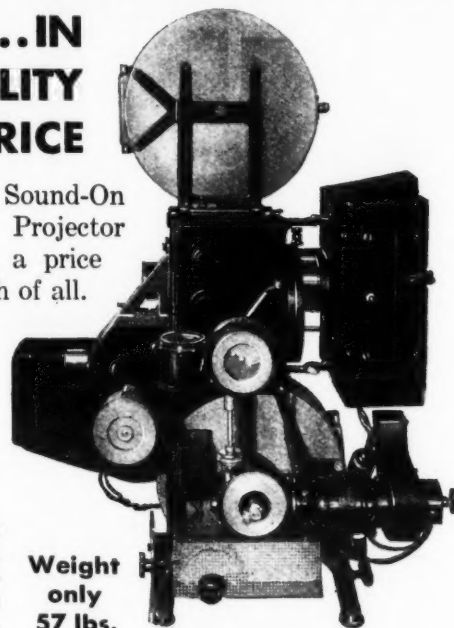
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The HOLMES needs no introduction. It is known and used the world over. Write for full information.

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"Quiet, children ... QUIET!"

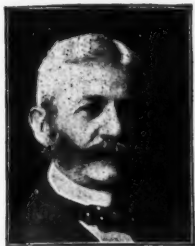
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Acousti-Celotex sound absorbing tiles are. The moment they're installed, how-to-control-sound ceases to be a problem.

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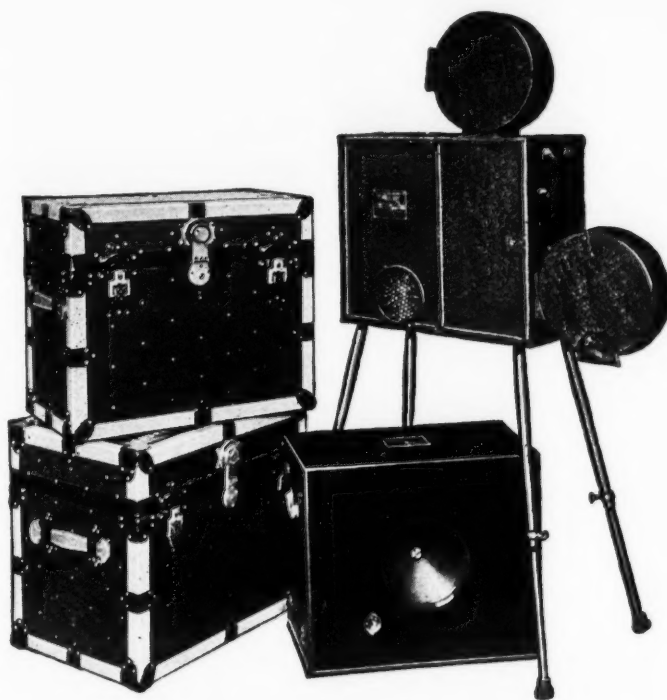
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The quality and appearance of the Writing Paper is equally as important as the desks, lighting, laboratory equipment, gymnasium equipment, — therefore, specify recognized "character" papers and these are manufactured from pulp to printed package by KVP in the "World's Model Paper Mill."

KVP School Papers are distributed through legitimate wholesale dealers who can supply you with any of the following brands:

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Phototone—the first really practical portable sound-on-film talking picture projector, offers you talking picture equipment of extreme simplicity, dependability, and of perfect tone quality. It is a machine built for the future. It uses standard 35 mm. film and is furnished complete with projector, amplifiers, speakers, and all controls. Easily moved from place to place, and set up, ready to operate in fifteen minutes time.

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The Sheldon Attached Swinging Chair —an Innovation in Cafeteria and Lunchroom Seating



No. 50410 Lunchroom Table

The Sheldon Attached Chair Lunchroom and Cafeteria Tables are regularly furnished for four or eight people; of oak material with school brown finish; top of maple with clear finish. These tables may be obtained specially to meet altered size and arrangement conditions, with finish to match any room trim, and with a selection of special composition tops including welded fibre, Formica, Textalite, Shelstone, and others.

What is more disturbing to the pleasure of a meal than getting in, and out, and around a crowded cafeteria? Yet, a poorly filled room means failure for the cafeteria.

Imagine a cafeteria filled to the brim with customers or students, all going their own way, finding their seats, in, out, and about with the ease and precision of a smoothly running machine.

The Sheldon Attached Swinging Chairs operate in less area than any other chair, yet non-colliding, always in a definite place, quietly swinging into any position with the lightest touch of the fingertips. They offer pleasantness, convenience, freedom under the most trying conditions.

Add to this the protection to the table top against chairs being put on them, and the added ease and economy of cleaning around these tables, and you have a few of the main reasons why "Sheldon Attached Chair Cafeteria Tables" are growing in popularity.

If you are considering equipping a cafeteria or lunchroom, ask us to send literature and place an operating sample of the attached chair where you may examine it. It pays to investigate.

E. H. SHELDON & CO. *Muskegon, Mich.*

TAKING THE GUESS OUT OF GRADING

(Concluded from Page 35)

The points of division between the five grade-groups have been established as follows: F - 56.6 - D - 72.5 - C - 88.5 - B - 104.5 - A

It is now easy to assign to each score its grade equivalent as determined by these division points. These assignments are shown in column 11, Table I.

(b) *Method by computation of the standard deviation.* Teachers who are practiced in statistical methods may tabulate the scores in a frequency table, from which the mean score and standard deviation can be computed. Thus:

Score Intervals	Frequency
105 to 109	2
100 to 104	0
95 to 99	3
90 to 94	2
85 to 89	5
80 to 84	3
75 to 79	3
70 to 74	4
65 to 69	1
60 to 64	2
55 to 59	3
50 to 54	1
45 to 49	1
Total	30
Mean Score	78.33
Standard Deviation	15.65

The standard deviation is the grade-segment; and when applied to the scale of scores with half the segment measured above and half below the mean score, it indicates the limits of the "C" group.

The procedure from this point is exactly the same as in the empirical method; except that the true mean of 78.33 replaces the mid-score of 80.5 and the more exact grade-segment of 15.65 takes the place of 16.

This more exact method locates the division points between the grade-groups as follows:

F - 54.85 - D - 70.50 - C - 86.16 - B - 101.81 - A

The assignment of grades to scores on this basis is shown in column 12, Table I. The distribution of grades by each of the two methods is shown below:

Grade	Empirical Method		Exact Method	
	No.	Per Cent	No.	Per Cent
A	2	7	2	7
B	5	17	7	23
C	12	40	12	40
D	8	26	7	23
F	3	10	2	7

The pupils of this class were unselected. If a large number of pupils has been divided into two or more class sections on the basis certain factors of selectivity, all sections should be given the same tests and in other respects should be measured alike. In the final assignment of grades they should be treated as a unit.

While not entirely free from the possibility of error, the methods described herein are free from many of the errors common to subjective methods of assigning grades. Also these methods, if utilized generally, aid in making grades issued by different teachers and different schools uniformly interpretable.

HOW SALT LAKE CITY MAINTAINS BEAUTIFUL WOOD FLOORS

(Concluded from Page 31)

importance. The vital element is, however, which material will give the best results per dollar expended? And to this question the only sure solution is to try out the products available in any locality and to prove by actual tests their relative values.

With all of the products so far tried at Salt Lake City, a period of at least four months has been required to definitely prove their respective merits, and an entire school year has

proved to be a much better time for a conclusive test.

The savings and advantages of the oil-mop system may be summarized under five heads:

1. The appearance of the floor surfaces far surpasses anything previously attained with other methods.

2. The cost of maintaining the floors in this fine condition is less than for keeping them in their previously fair condition. The saving effected by the elimination of floor brushes, sweeping compound, scrub brushes, soap, lye, buckets, etc., more than offsets the cost of materials and tools used by the oil-mop system. The floor oil may also be used for cleaning and polishing woodwork and furniture, thereby decreasing expenditures for these items.

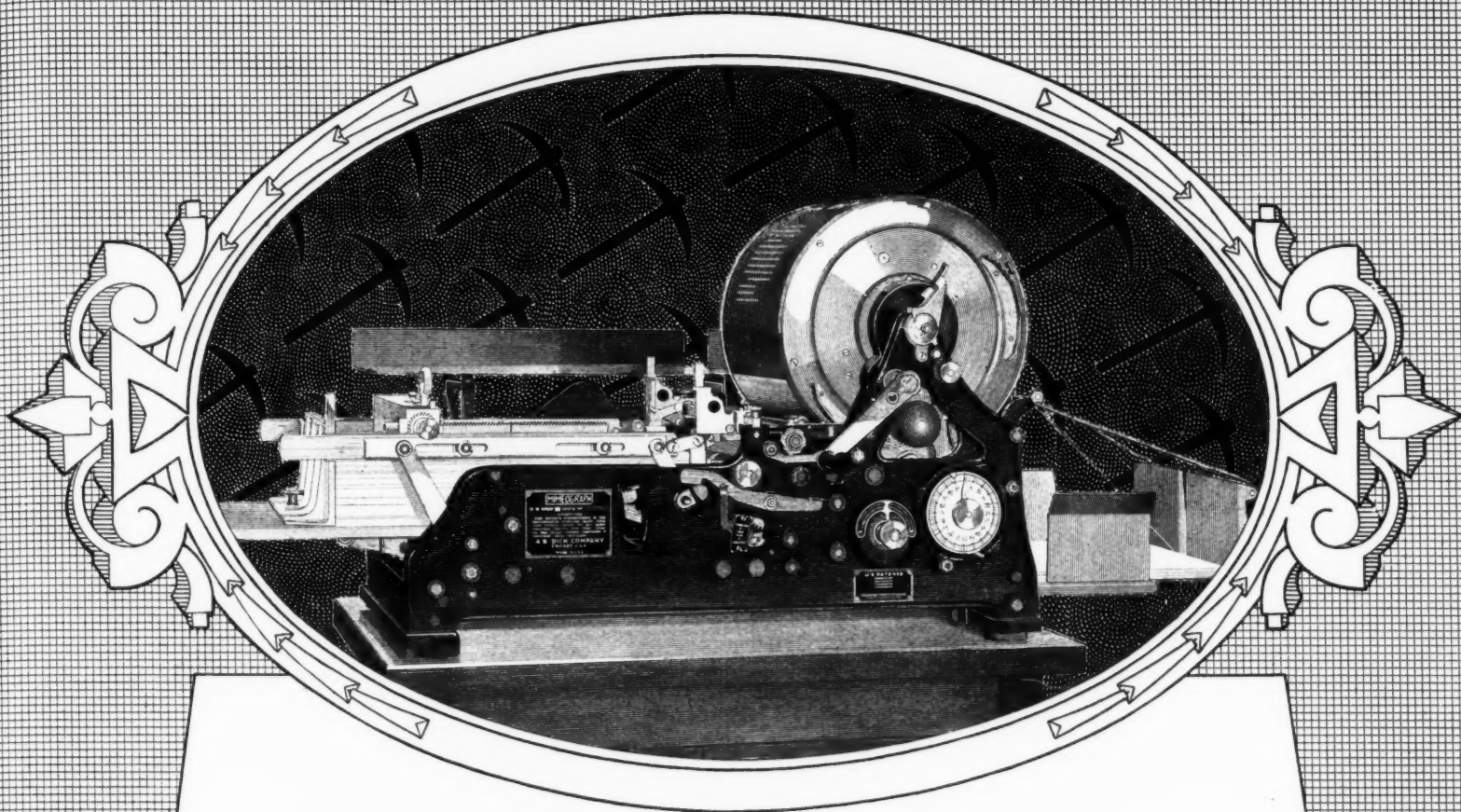
Life of Floors Increased

3. The life of the floors is unquestionably increased, since no wear at all comes on the wood when the finish is properly maintained.

4. Although there is probably no saving in time for sweeping classrooms and other small areas by the oil-mop system, corridors, gymnasiums, etc., may be swept in at least one fourth the time.

5. Dusting is decreased to a minimum. Of course, the surfaces of desks, tables, chairs, etc., must still be dusted once a day, but the dust that is encountered seems to settle down from a general air condition rather than from a stirring up of dust during the mop-sweeping process. In fact this sweeping can be carried on in any spaces while they are occupied without any inconvenience to occupants as far as dust is concerned.

The advantages gained by this system in dusting alone would justify its adoption even if the cost equalled or even exceeded that of the old system. And the same observation might also be made of the advantages of appearance, long life, or the saving in time.



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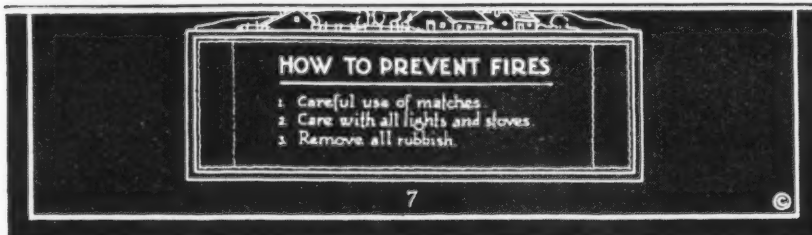


VISUAL EDUCATION THROUGH BLACKBOARD DRAWINGS

Simple sketches made before pupils result in more dynamic teaching and bring greater interest and attention. Such drawings often mean more than a printed picture, because the human element—the teacher's touch—is present. The drawing grows before the pupil's eye—step by step. Here action is conducive to attention.

For example we illustrate this month an interesting blackboard idea presenting Fire Prevention propaganda. In the following issues effective methods for teaching geography, history, literature, science, health and similar subjects will be shown, using An-du-septic Dustless Crayon and Colored Chalk Crayons, two widely used Gold Medal Products.

AN-DU-SEPTIC DUSTLESS CRAYON



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Makers of

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Anti-Dust Blackboard Crayon

Atlantic White Chalk Crayon
B & S Colored Chalk Crayon
Artista Water Colors
Artista Poster Show Card Colors

BONDING VERSUS PAY-AS-YOU-GO

(Concluded from Page 40)

truth despite the general principle established. In the final analysis, each city must be treated as a separate and distinct problem.

Bond Interest Rates as a Factor

Another factor which the superintendent of schools in a city where building is annually recurrent, or nearly so, should consider before he decides upon his policy of financing capital projects, is the bond interest rates in his community.

It is a common-sense procedure not to borrow when interest rates are high. Schoolmen can well follow the example of business men in this respect. When interest rates are high, corporations prefer to finance their improvements by selling stock, rather than by issuing bonds. To put it another way, when interest rates are high, corporations prefer to use their own money—to pay as they go—rather than use the money of someone else and pay the high rate of interest.

Of course, private and public economy are not alike in all respects, but they are alike in that limits of capacity for borrowing are determined on the same principle.⁶ Each person can borrow on his disposable income. And a municipality entering the money market for a loan stands on a precisely similar footing to the industrial corporation. It must conform to the usual course of business, and it must submit to have its solvency gauged in just the same way—by the price at which it can obtain accommodation.

Bonds should not be issued when interest rates are high, not only because unusually large sums will have to be paid in interest, but also

because much of the principal will be repaid with a dollar of higher value.

Cities vary widely in the prices they receive for their bonds. During February, 1929, school-bond rates ranged from \$3.99 to \$6.00, with an average of \$4.73.⁷ Cities which for one reason or another are forced to pay excessive rates on their bonds should give deep consideration to the advisability of using the pay-as-you-go plan.

⁶Clark, Harold F. "Index of School Bonds." AMERICAN SCHOOL BOARD JOURNAL, Vol. 80, April, 1930, p. 104.

PONTIAC COMPLETES BALANCED BUILDING PROGRAM

(Concluded from Page 45)

have their own wardrobes and small workrooms for the children, and like the kindergarten, become either entirely separate school units or a group unit with the kindergarten.

On the second floor the corresponding spaces at the front are given over to academic work, grouped about the library as a nucleus, and elementary-science rooms are located in larger corner rooms.

The medical suite is supplemented by a large open-air pavilion with a lunch room in connection. A smaller restroom connects with this suite, so that rest periods can be prescribed. Thus classrooms have been well adapted to the needs of children who are physically handicapped. Education need not be interrupted because the open-air classes cannot keep pace with stronger children.

The Whittier site like that of the Lincoln Junior High, contemplates future building. When the demand requires and economic conditions permit, a southern junior high school will be erected on this site, since the building plot of 7.31 acres provides abundant space. The boiler, fan, and fuel rooms, located in the basement beneath the playrooms, are capable of

further extension to take on the additional building service.

The Whittier Elementary School completed but unequipped represents a building cost of \$198,900 for 720 pupil stations. This is a per-pupil building cost of \$276 and a cost of 37 cents per cubic foot.

Functional planning is the keynote of both these buildings. Efficient use of space provided cuts down construction cost, and strict adherence to the use demanded prepares for logical extensions in the future. Pontiac can point with pride to its achievement in building economies. It operates 25 finished buildings whose combined physical values, exclusive of grounds, aggregate \$5,148,710.44. Eighty-three acres of property are held as proposed sites of future schools. Their efficient and permanent buildings show construction costs which are below \$500 per pupil. The per-pupil cost of operation based upon all expenditures was \$181.72 for the fiscal year ending June 20, 1930, and strictly instructional service accounts for nearly four times the cost of routine plant operation.

LIVING A GREAT LIFE

(Concluded from Page 50)

"I just found out this afternoon," Martin Luke half stuttered—"I just found out that tion was assured anyway, and there were those who felt that the superintendent was only endorsing a movement which he could not stop.

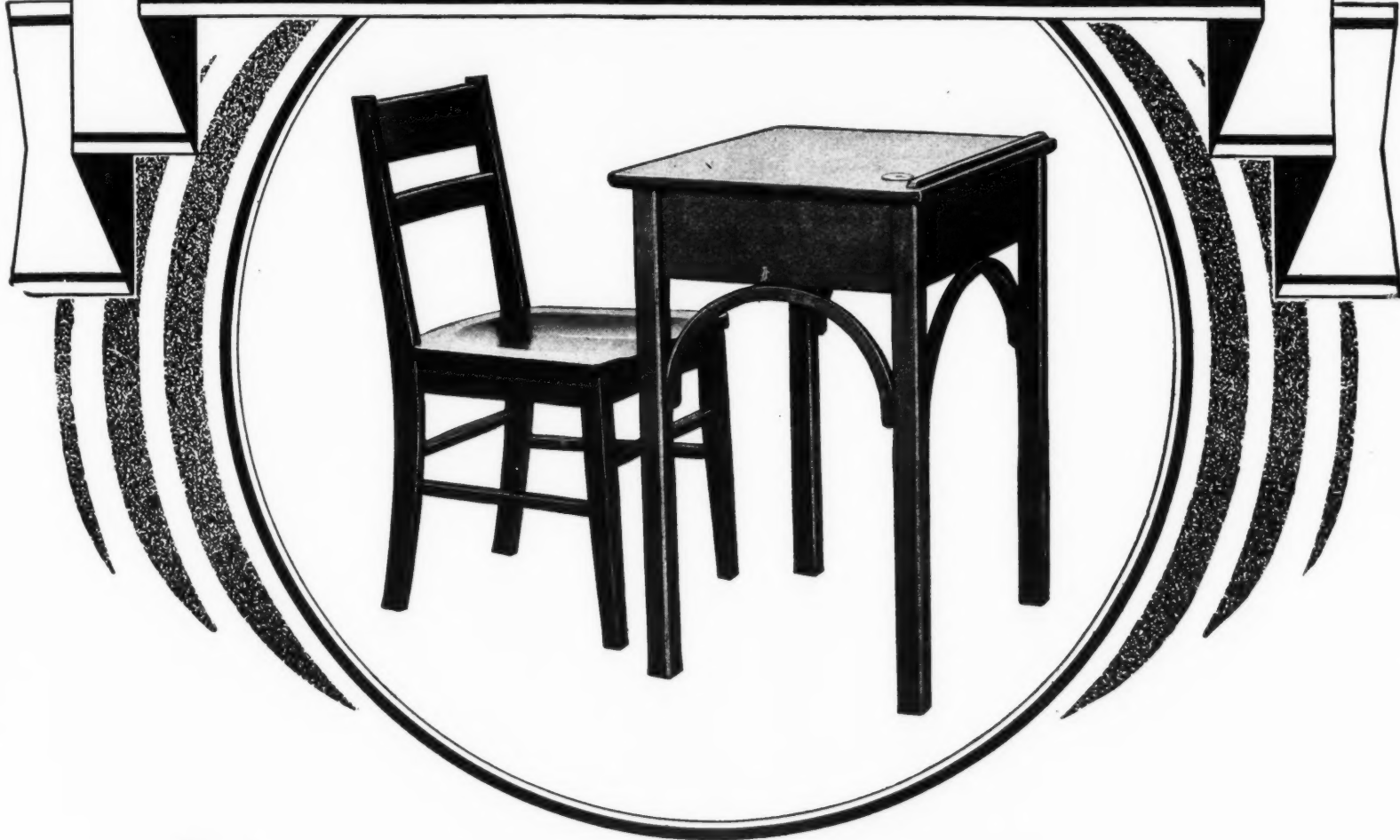
Although there was practically no opposition to Mr. Haddock the city hall was jammed with high-school youngsters while the tellers were counting the ballots. And when the result was announced, a dozen boys ran breathless to Mr. Haddock's place to tell him about it.

Mr. Haddock shook hands with each one of the boys. He led them into his study where the youngsters began to talk excitedly about the election.

(Concluded on Page 94)

⁶Bastable, C. F. *Public Finance*. Macmillan and Co., Inc., London, 1917, p. 658 f.

An Attractive, Business-Like Desk Set for Modern Teaching



THOSE educators who seek attractiveness, flexibility, and efficiency in the classroom will approve this modern desk set by Heywood-Wakefield. It is an all wood desk set similar in design to the type which many pupils will use upon entering business careers; a desk that permits flexible seating arrangements and one which assures easy and thorough sweeping and cleaning of the classroom.

It is strong, rigid, and comfortable. The posture type of chair has a properly curved and pitched back and a deep, supporting saddle type seat. This furniture is available in a wide range of sizes, too. Consequently, it is comparatively simple to obtain a uniform, business-like appearance throughout the entire school building.

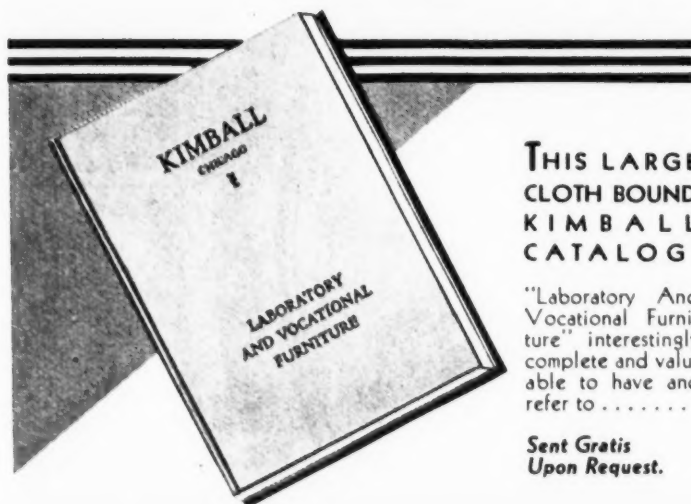
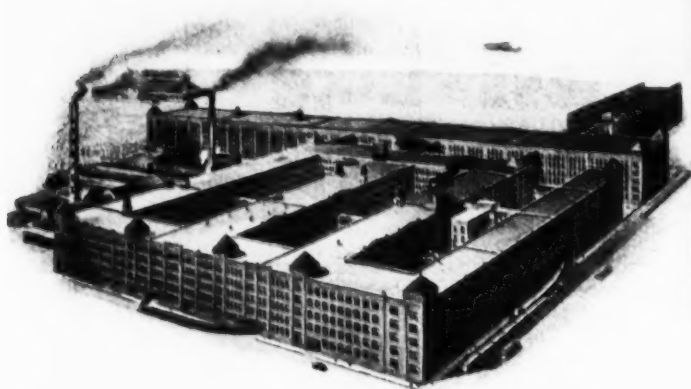
The Heywood-Wakefield Table Desk Set is built of sturdy stock; is well braced all around; and is entirely capable of withstanding the severe usage which schoolroom equipment is sure to receive. The specially designed bentwood braces add extra strength, yet are so placed that they do not interfere with the pupil's feet. Before selecting any classroom equipment, be sure to investigate this and other practical styles of Heywood-Wakefield School Furniture. A note to the nearest sales office listed below will bring you complete information.

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Houston, Texas	San Antonio, Texas
Los Angeles, Calif.	San Francisco, Calif.
Minneapolis, Minn.	Seattle, Wash.

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Established 1857



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Upon Request.*

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Eastern Sales Offices
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NEW YORK CITY.

KIMBALL BUILT LABORATORY AND VOCATIONAL FURNITURE CHICAGO

(Concluded from Page 92)

the mayor appoints the school board and the school board appoints the superintendent. That makes you above the school board and above the superintendent. Oh, boy! What we can't show them." The egotistical "we" is excusable, for the boys already felt themselves to be a part of the administration.

"Say boys," Mr. Haddock said: "I am going to let you in on a secret. When I take the mayor's oath, I am going to make a speech. I have been working on that speech for a week. I will read a part that will interest you."

He pulled from a drawer a sheaf of papers. He stood by the desk in front of his disciples and assumed his best platform attitude.

"And now, good folks," he read, "the young people have shown us the way. A few weeks ago over five hundred high-school pupils gave their promise that they would do everything in their power to restore harmony, coöperation, and loyalty to the public schools of this city. And I ask of you, as fair-minded people, whether you can follow a path better than the one the children have held out to you. Let all those who hold the welfare of their city next their hearts, join with them and with me. . . ."

Mr. Haddock was an orator of the old school, who ran to dramatic gestures and heroic periods. Someone once compared his orations to blowing up a paper bag and hitting it with your fist. Occasionally, however, he did make a good speech.

I have tried to emphasize the fact that Mr. Haddock was a rather mediocre man in a very mediocre city. And now when he paused, his youthful hero worshipers could not know the troubled thoughts that were revolving in his mind. Viewing the affair with the hopeful eyes of youth, it did not occur to them that Mr. Haddock was worried because he was getting

old. He had never saved any money and he was hoping that he could make good at the mayor's job, for it was the only prospect he had to make a living during the few active years that remained.

It is only to youth that age appears oracular and profound. The boys are not to be blamed if they thought themselves in the presence of greatness. For three is majesty even in a humble life that is lived with unwavering courage and faith. Young people do not always know the difference between the great man and a mediocre one who has lived through a great life. I am not sure myself that the distinction is a good one for I was one of those boys.

CUTTING DOWN THE FIRE HAZARD

(Concluded from Page 36)

guishers should be placed in prominent places and where access to them cannot be blocked. With each extinguisher there should be a tag showing when it was last charged, and the extinguishers must be recharged at least once a year. Inspection is necessary to make sure that all extinguishers are filled, that the acid bottle is filled and in place, and that the gaskets which make the cover tight are in good condition. All teachers and other school employees should be instructed in the operation of extinguishers. If the school has a safety patrol of reliable older boys, it is also well to see that they know how to handle the extinguishing apparatus.

If there are any glass fire grenades about the schoolhouse, they had better be thrown out. They are not reliable, and attempts to use them may result in loss of valuable time. Their presence also tends to give a feeling of false security.

A STUDY OF SCHOOL CONTESTS

(Concluded from Page 53)

Today business and social institutions of all sorts are under the fire of analysis and exam-

ination. Out of this period will come more satisfactory conditions and more stable organizations. We submit that schools must subject themselves to the same sort of stock-taking. The proper handling of school contests may be a fertile field of analysis and reorganization.

SCHOOL ADMINISTRATION

♦ Marksville, La. The board of education has awarded the contract for the erection of the Evergreen High School, the Bordelonville High School, the Dupont Junior High School, and a number of rural high schools.

♦ Framingham, Mass. An addition to the senior high school has been erected and will be ready for occupancy on December 1. The cost of the building will be \$75,000.

♦ Greenfield, Mass. The board of education has appropriated the sum of \$800 for the preliminary plant of a junior high school, to cost about \$400,000. Mr. Bernard Dirks, of Greenfield, is the architect of the building.

When information reached the state educational department of California that publicity concerning the school system of Marysville was subject to approval by the board of education, State Supt. Vierling Kersey said:

"I am opposed to the dissemination of rumors and unfounded gossip about the affairs of school, but I am equally opposed to the placing of a gag on reliable sources from which the people may learn how their schools are being conducted. There is only one right way to place school news before the public, and that is through the columns of the local newspapers. Such news, correctly given out and reliably reported in the papers, forms the chief means of contact between the school authorities and the people."

♦ Chattanooga, Tenn. Teachers holding positions in the local schools will automatically lose their positions this year, if they marry during the school term, under a rule recently adopted by the school board. The action was taken because it was felt that teachers could not concentrate on their work if they were planning to get married.

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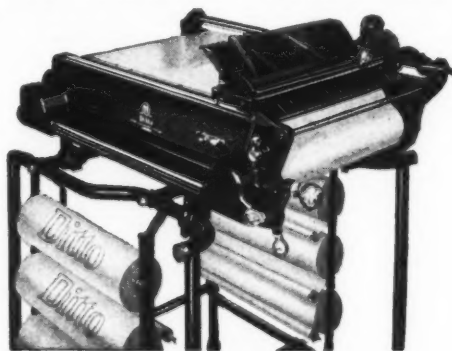
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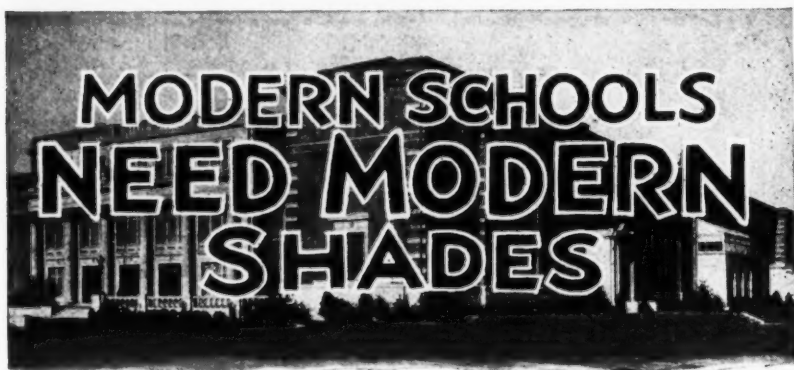
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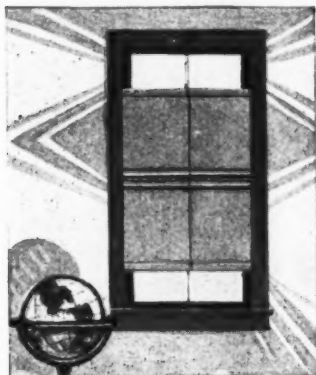


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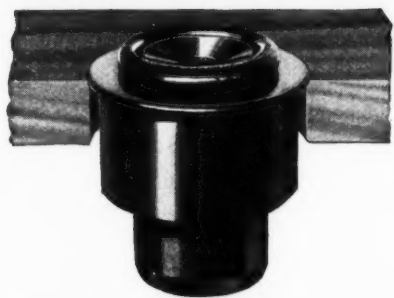
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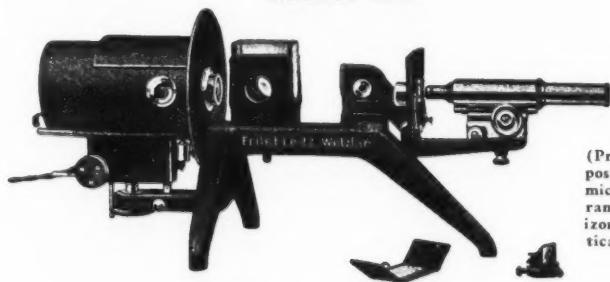
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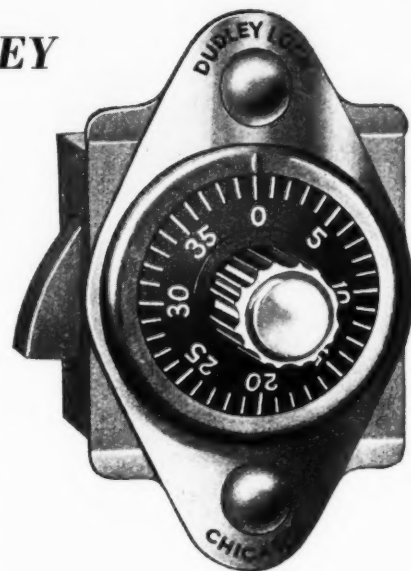
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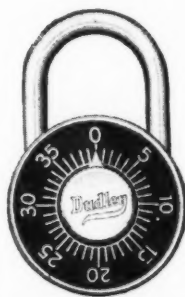
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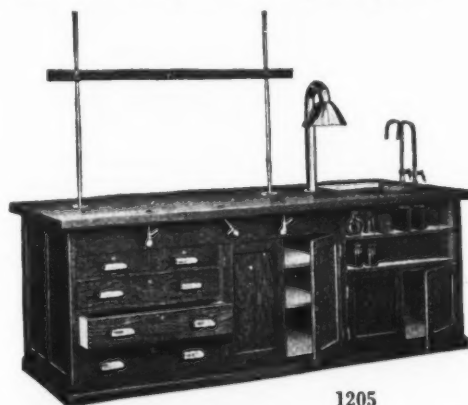


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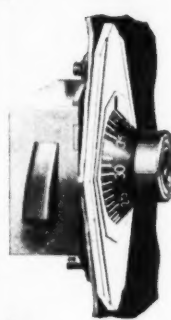
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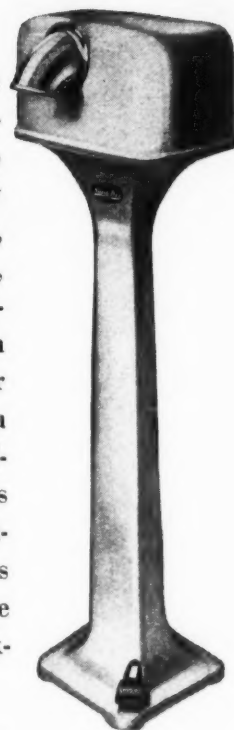
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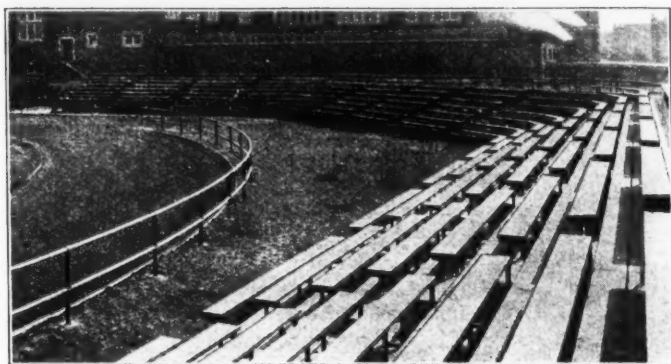
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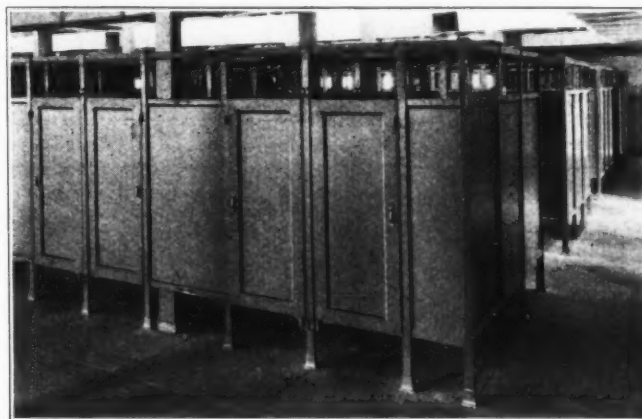
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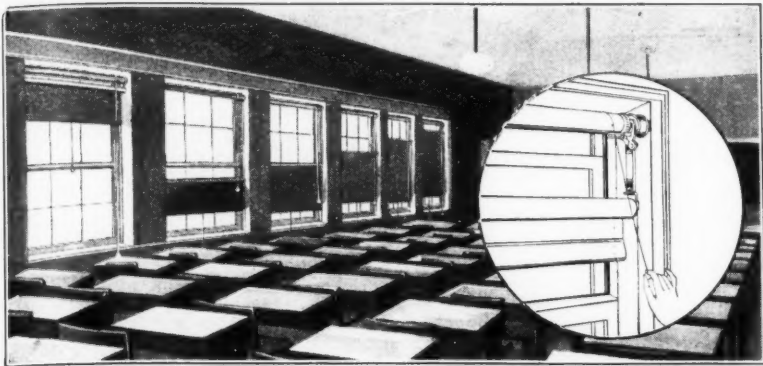


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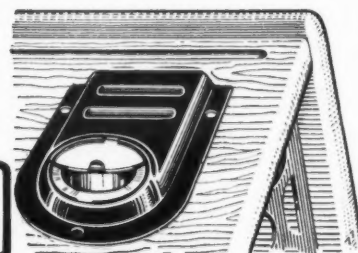
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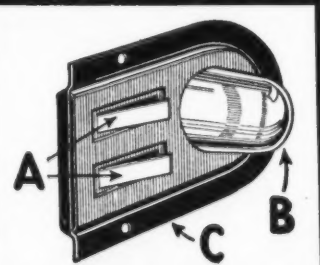
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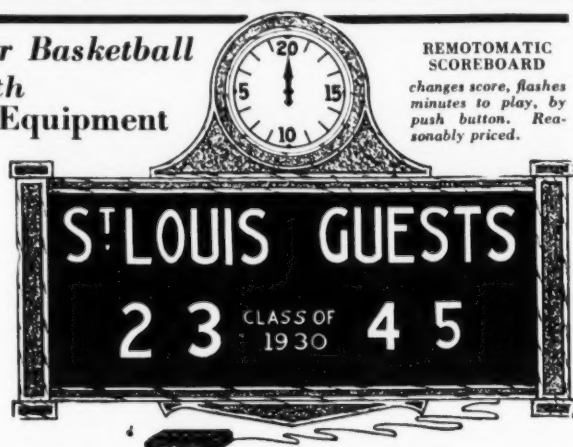
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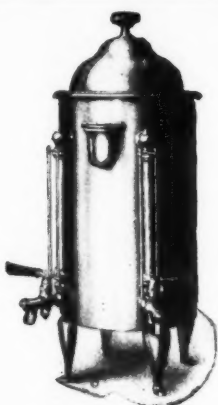
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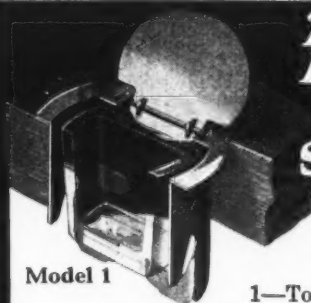
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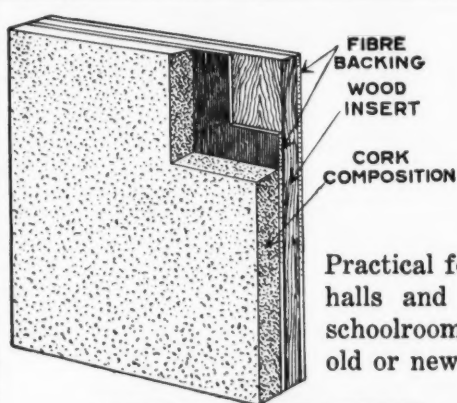
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Weber Costello Company
Welch Mfg. Co., W. M.

MEMORIAL TABLETS

Russell & Sons Co., Albert

METAL BLACKBOARD TRIM

Dudfield Manufacturing Company

METAL LATH

Northwestern Steel Products Co.

METAL ROLLERS—WINDOW SHADE



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help you solve your
floor problems....!

CLEANLINESS and sanitation are absolutely essential to health in Public Schools. Keeping floors clean is a serious problem—especially if you have floors of various new types and composition, such as Rubber, Cork or Asphalt Tile. *It is important to use the right cleaning compound on modern floors.*

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SAVE this money your school can use so readily. You can do it with the LINCOLN Twin Disc Floor Machine. A certified survey has proved the LINCOLN saves 2½ times (259%) its cost each year. Let us send you the LINCOLN for a Free Trial on your own floors to prove to you that it will save your money—and will give you clean, beautiful, sanitary floors!

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So long as you use hand labor or old, inefficient methods to clean or polish your floors, you are literally throwing money away. The LINCOLN Twin Disc will stop this waste for you and will save many times its cost. Write for catalog, FREE Trial Offer,* and copy of Certified Survey.



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FLOOR-MACHINERY CO., INC.
214 W. GRAND AVENUE CHICAGO, ILL.



The LINCOLN Twin Disc

SCRUBS — WAXES — POLISHES



Directory of Equipment and Supplies

(Continued from Page 106)

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Eastman Teaching Films, Inc.
Electrical Research Products, Inc.
Holmes Projector Company
Phototone Equipment Corp. of America
R. C. A. Photophone, Inc.

PAINT SPRAYING EQUIPMENT
DeVilbiss Mfg. Co., The

PAINTS
Sonneborn Sons, L.
U. S. Gutta Percha Paint Co.

PANIC EXIT DEVICES
Potter Manufacturing Corp.
Vonnegut Hardware Company

PAPER
American Crayon Company
Beckley-Cardy Company
Kalamazoo Vegetable Parchment Co.

PASTE
Sauford Mfg. Co.

PENCIL SHARPENERS
Automatic Pencil Sharpener Co.

PENCILS
American Crayon Company

PHYSICS EQUIPMENT
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PIANOS
Kimball Company, W. W.

PLAYGROUND APPARATUS
Chicago Gymnasium Equipment Co.
Hill-Standard Company
Medart Mfg. Company, Fred
Narragansett Machine Company

PLAYGROUND LIGHTING EQUIP.
Giant Manufacturing Company
Hill-Standard Company

PLUMBING FIXTURES
Clow & Sons, James B.
Crane Company
Hoffmann & Billings Mfg. Co.
Rundle-Spence Mfg. Company
Sloan Valve Company
Taylor Company, Halsey W.
Vogel Company, Joseph A.

POINTERS
N. Y. Silicate Book Slate Co.
Weber Costello Company

POLISHING AND WAXING EQUIP.
Finnell System, Inc.
Hillyard Chemical Company
Huntington Laboratories
Johnson & Son, S. C.
Lincoln-Schlueter Floor Machinery Co.
Vestal Chemical Company

PORTABLE BLEACHERS
Minter Homes Corporation
Wayne Iron Works

PORTABLE SCHOOLHOUSES
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Asbestos Buildings Co.
Circle A Products Corporation
Harris Brothers Company
Minter Homes Corporation

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PROJECTION LANTERNS
Bausch & Lomb Optical Co.
Spencer Lens Co.

PROJECTION MACHINES
Eastman Teaching Films, Inc.
Electrical Research Products, Inc.
Holmes Projector Company
Phototone Equipment Corp. of America
R. C. A. Photophone, Inc.

PUBLIC ADDRESS SYSTEMS
International Business Machines Corp.
Western Electric Co.

PUMPS—Vacuum, Condensation, Centrifugal, Sump
Nash Engineering Co.

RACKS—GYM. BASKET—STEEL
Durabilt Steel Locker Co.

RANGES
Standard Gas Equipment Corp.
Westinghouse Electric & Mfg. Co.

RECORD SYSTEMS
Remington Rand, Inc.

REFRIGERATION
General Electric Company

REPRODUCTION SYSTEMS
Western Electric Company

SASH OPERATING DEVICES—STEEL
Detroit Steel Products Co.
Truscon Steel Company

SCIENTIFIC APPARATUS
Bausch & Lomb Optical Co.
Standard Electric Time Company
Welch Mfg. Co., W. M.

SCREENS—PICTURE
Eastman Teaching Films, Inc.

SEWAGE EJECTORS
Nash Engineering Co.

SEWING MACHINES
Singer Sewing Machine Co.

SHADE ADJUSTERS
Eveleth Mfg. Co.

SHOE LOCKERS—STEEL
Durabilt Steel Locker Co.

SHOWERS
Crane Co.
Hoffmann & Billings Mfg. Co.
Powers Regulator Company

SIGNS
Russell & Sons Co., Albert

SMOKE SCREENS—METAL DOORS
Butler Manufacturing Co.

SMOKE SCREENS—METAL SASH
Butler Manufacturing Co.

SOAP DISPENSING EQUIPMENT
Huntington Laboratories
Hillyard Chemical Company
Palmer Products, Inc.
Vestal Chemical Co.

SOUND PICTURES
Electrical Research Products, Inc.
Holmes Projector Company
Phototone Equipment Corp. of America
R. C. A. Photophone, Inc.

SOUND SYSTEMS
Electrical Research Products, Inc.

SPRAY PAINTING EQUIPMENT
DeVilbiss Mfg. Co., The

STAFF LINERS
Weber Costello Company

STAGE CURTAINS, EQUIPMENT AND SCENERY
Armstrong Studios
Electrical Equipment Co.
Tiffin Scenic Studios
Twin City Scenic Company
Universal Scenic Studios, Inc.
Volland Scenic Studios
Weiss & Sons, I.

STAIR TREADS
Alberene Stone Company
American Abrasive Metals Co.
Norton Company
Sanymetal Products Company

STATIONERY CABINETS—STEEL
Durabilt Steel Locker Co.
Medart Mfg. Company, Fred

STEEL CHAIRS
Royal Metal Mfg. Company

STEEL STORAGE CABINETS
Durabilt Steel Locker Co.
Medart Mfg. Company, Fred
Northwestern Steel Products Co.

STOOLS—STEEL ADJUSTABLE
Royal Metal Mfg. Company

STOKERS
Iron Fireman Mfg. Co.

TABLETS—BRONZE
Russell & Sons Co., Albert

TABLES
Kewaunee Mfg. Company
Kimball Company, W. W.
Mutschler Bros. Company
Remington Rand, Inc.
Sheldon & Company, E. H.
Standard School Fixtures Co.
Welch Mfg. Co., W. M.

TELEPHONE SYSTEMS
Automatic Electric Company
International Business Machines Corp.
Standard Electric Time Company
Western Electric Company

TEMPERATURE REGULATION
Johnson Service Company
Powers Regulator Company

TOILET PAPER AND FIXTURES
A. P. W. Paper Company
Palmer Products, Inc.

TOILET PARTITIONS
Milwaukee Stamping Co.
Sanymetal Products Company

TOILET SEATS
Brunswick-Balke-Collender Co.

TOOL CABINETS
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TOOL CABINETS—STEEL
Durabilt Steel Locker Co.

TOWELS
A. P. W. Paper Company
Brown Company
Palmer Products, Inc.

TYPEWRITERS
Remington Rand, Inc.

VACUUM CLEANING SYSTEMS
Spencer Turbine Company, The

VACUUM PUMPS
Nash Engineering Company

VARNISHES
American Crayon Co.
Hillyard Chemical Company
Huntington Laboratories
Vestal Chemical Company

VENTILATING SYSTEMS
American Air Filter Co.
Buckeye Blower Company
Nelson Corp., The Herman

VISUAL INSTRUCTION EQUIPMENT
Bausch & Lomb Optical Co.

VOCATIONAL EQUIPMENT
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Columbia School Supply Co.
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Kimball Company, W. W.
Richards-Wilcox Mfg. Co.
Sheldon & Company, E. H.
Sjostrom Co., Inc., John E.
Welch Mfg. Company, W. M.

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Evans, W. L.
K-M Supply Company
Prose-Maco Mfg. Company
Richards-Wilcox Mfg. Company
Wilson Corp., Jas. G.

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Medart Mfg. Company, Fred
Northwestern Steel Products Co.

WASTE PAPER BASKETS
National Vulcanized Fibre Co.
Northwestern Steel Products Co.

WASTE RECEPTACLES
Solar-Sturges Mfg. Co.

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Crane Co.
Vogel Co., Joseph A.

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American Crayon Company
Binney & Smith Company
Talens School Products, Inc.

WATER PURIFIERS
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Wallace & Tiernan, Inc.

WATERPROOFING
Sonneborn Sons, L.

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WINDOW FIXTURES
Austral Window Company
Williams Pivot Sash Company

WINDOW GUARDS
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Northwestern Steel Products Co.
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du Pont de Nemours & Co., E. I.
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Detroit Steel Products Company
Kawneer Company, The
Northwestern Steel Products Co.
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Universal Window Company
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In Your School — USE NIBROC TOWELS

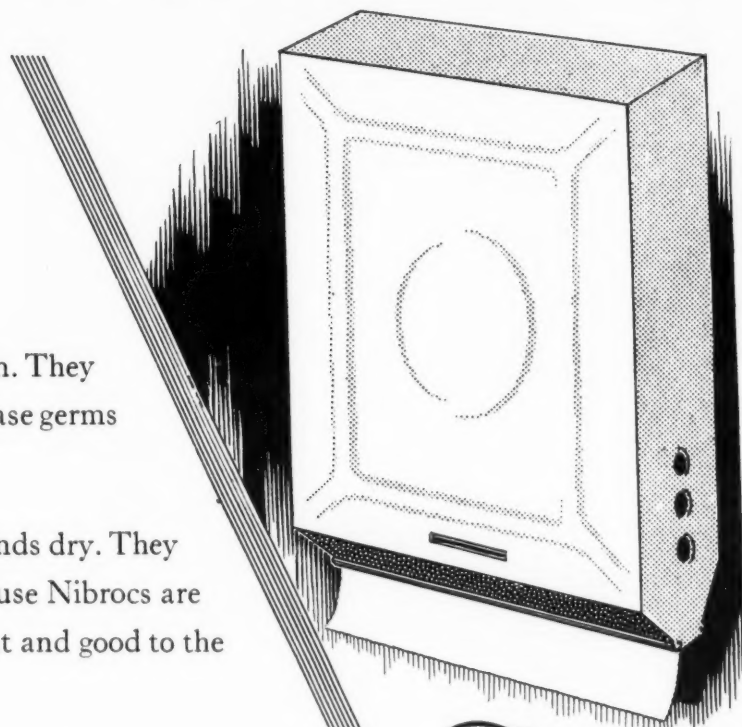
for Health and Economy

Nibroc Towels encourage boys and girls to keep clean. They are individual towels, clean and safe, free from disease germs that oftentimes travel via the common towel.

Children using Nibroc's rub their faces and hands dry. They can use Nibroc's just like a linen towel, because Nibroc's are strong. Nibroc Towels are highly absorbent and good to the most sensitive skin.

As a further assurance of cleanliness, Nibroc Towels are vended The Safe Way, from a dust-proof metal cabinet. It locks with a key. Dispenses one Nibroc Towel at a time, making it easy to be economical.

Great strength and high absorbency combine to make Nibroc's economical. They do twice or three times the work of ordinary paper towels. One wipes dry. Thousands of schools, after trying cloth towels and paper towels of other makes, have decided Nibroc's are the nicest, safest, and most economical to be had.



*The Safe
Way*



*The Dangerous
Way*

**better
mail it
to day**



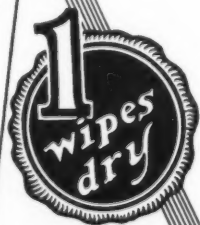
If you will send us your sample package of NIBROC TOWELS we'll be glad to give them a trial.

School _____

Street _____

City _____

Requested by _____



BROWN
Company



FOUNDED 1852

Portland, Maine.

BOSTON NEW YORK PITTSBURGH ATLANTA
CHICAGO MINNEAPOLIS ST. LOUIS SAN FRANCISCO
BROWN CORPORATION, MONTREAL, P. Q.

After the Meeting

THE PUN DID IT

Some years ago, during a book contest in New Hampshire, it so happened that two agents named Owen appeared on the scene. Both represented Boston houses, but they had never met each other. When the fact became known among the bookmen who had gathered at the small hotel, it did not take long to effect an introduction.

"Mr. Owen let me introduce you to Mr. Owen," said one of them, and a pleasant chat followed.

Among the bookmen was Bookins, a sort of wag who had witnessed the introduction. "By the way, gentlemen," said he, "did you ever hear of a Mr. Owenmore?"

"No, who is he?"

"Why he is the fellow who went away owing more than he did when he first came, and owing still more when he came back."

One of the Owens laughed, the other began to look thoughtful. Bookins could not account for this, but finally concluded that where there was a similarity of names there must be a dissimilarity of men. But the explanation came.

A week later, while in Boston, Bookins told the story to the manager of his house. The latter was greatly interested, and said:

"Why, didn't you know that Owen owed me \$30 for these last ten months? He paid it yesterday. Your ghastly pun evidently brought him to time."

A school teacher once received a note like this: "Dear Mam—Please excuse Johnny today. He will not be at school. He is acting as timekeeper for his father. Last nite you gave him this ixample. If a field is four miles square, how long will it take a man walking three miles an hour to walk 2½ times around it. Johnny ain't no man, so we had to send his daddy. He left early this morning and my husband said he ought to be back late to-night, though it would be hard going. Please make the nixt problem about ladies as my husband can't afford to lose a day's work."—*"Mrs. Jones."*—*The Courier.*

Shakespeareana

Little Willie: "I don't want to go to that damn school any more!"

Father: "Why, Willie, where did you ever learn such a word as that?"

Little Willie: "Why, William Shakespeare uses words like that."

Father: "Well, then, quit runnin' around with him."

An Old Fling Repeated

"Lay down, pup; lay down!" ordered the man. "Good doggie—lay down, I say."

"You'll have to say 'lie down,' Mister," declared a small bystander. "That's a Boston terrier."



Had a Snap Job

Teacher: What does your father work at, Johnny?
Johnny: Please, ma'am, he don't work at nothin'. He's a policeman.

ENGLISH AS SHE IS WROTE

Teachers grow gray because they must contend with so many queer things which children say and do. The following definitions and statements are taken from an old collection of genuine examination questions collected in the "eighties" by Caroline B. LeRow:

Centaur—a three-legged animal.

Conjugate—to wrinkle up.

Culinary—cunning or cute.

Emolument—a structure, or a headstone to a grave.

Rhythm is a horse trotting on a road.

We study grammar to get the senses.

Arithmetic is the signs of numbers.

A decimal fraction is one with a point.

The Rocking mountains are the graitest in America.

The principal mountains of America are lamb, beef, veal.

The great lakes of America is champagne.

The name of the Cow is called Sold leather.

The name of the calf is calf-skin.

William the conqueror was the first of the Mormons.

A night errant is a man who goes around in the night in search of adventure.

Fox wrote a good book of Marters.

The play of Julius Caesar consists of five acts, each act being a Sene.

He Would

"When they take woman away from the coeducational college," said the speaker, "what will follow?"

"I will," cried a voice from the audience.

"Which is the most delicate of the senses?" asked the teacher.

"The touch," said young Jones.

"How's that?" asked the teacher, and young Jones explained: "Well, when you sit on a pin, you can't see it, but it's there."

A TRUE NEED TOO

Student: "What would you suggest, professor, that I read after commencement?"

The Professor: "The 'help wanted' advertisements."

Experienced

The Principal (showing new teacher her classroom): "I expect you'll find everything you need."

New Teacher: "Certainly. One usually has to."

Buyers' News

NEW CATALOGS

Modern Floor Finishing. By F. N. Vanderwalker. Cloth, 84 pages. Published by B. C. Johnson & Son, Racine, Wis.

A study of modern floor problems should convince any school official that old-fashioned methods of floor finishing and floor maintenance are certain to be unsatisfactory. The development of new types of flooring material, the demand for more durable and better-looking floors, have all served to create a need for better floor-finishing methods.

This little handbook, which has been prepared for the use of school custodians and others having in charge the finishing and upkeep of school floors, will be found useful in producing more serviceable, economical, and more beautifully finished floors.

In the booklet, considerable attention has been given to stains, wood fillers, lacquer application, wax application and polishing, resurfacing, sanding, and bleaching.

A final chapter in the book offers a number of brief working schedules for quick reference in carrying out various finishing jobs on wood, rubber, magnesite composition, cement, cork, ceramic tile, terrazzo, marble, slate, and painted floors, and on refinishing of old linoleum.

Medart Catalog of Gymnasium and Physical Education Equipment. The Fred Medart Mfg. Company, St. Louis, Mo., manufacturers of gymnasium and playground equipment, has issued its new Catalog L-3, which lists and describes a complete line of Medart steel lockers, including single-tier and double-tier lockers, gymnasium-suit, box, combination, two-person, and golf lockers. The lockers are made in a variety of designs, colors, and finishes, including the standard school-furniture brown.

The firm has also issued new Catalog BB-1, illustrating and describing its line of gymnasium and basketball equipment.

The new catalog, which has been prepared in response to a demand for information on this type of equipment, lists basketball goals, backstops, girder fittings, wall

padding, score boards, and gymnasium equipment. Working plans and directions are given for the use of school architects and others interested in the planning of gymnasium for basketball and physical-education work.

Complete information and prices may be obtained by any school official, or architect, upon request.

PERSONAL NEWS

Death of C. Harold Smith. Mr. C. Harold Smith, for many years president of Binney and Smith Company and one of the founders of the firm, died on August 31 at New York City. Mr. Smith was widely known in the stationery and school-supply trades. It was his energy, organizing ability, and foresight that led to the early enormous growth of the Binney and Smith chalk business.

NEW PRODUCTS FOR SCHOOL USE

New R. C. A. Photophone. The R. C. A. Photophone Company, 411 Fifth Ave., New York City, has announced its new R. C. A. Photophone, a portable sound-reproducing equipment, for use in educational institutions.

The R. C. A. Photophone projector is designed to accommodate a 1,000-foot standard reel for 35 mm. It has an 8-in. dynamic cone loud-speaker, an amplifier, a power-control switch, and is operated from 110-volt, 60-cycle, single-phase, a.c. power current. The machine is simple and sturdy in construction, embodies all of the engineering and acoustical principles for sound-reproducing systems, and will be found especially useful in schools.

Complete information may be obtained by any school official upon request.

Remington Rand Announces First Noiseless Portable Typewriter. The Remington Rand Business Service, Inc., 465 Washington St., Buffalo, New York, has just announced the marketing of a noiseless portable typewriter, which in addition to being soundless has a further feature of easy operation. The construction is such that with a sensitive touch it responds quickly and quietly to the hand of the operator.

The machine is finished in six coats of black Dupont duco which is used on fine automobiles, and which produces a finish that will not crack, or wear thin in use. All exposed parts are finished in chromium. The machine weighs 11 pounds and 8 ounces and is enclosed in a black-grained art leather carrying case.

Complete information will be furnished to any interested school official who requests it.

Announce Two New Gas Ranges for Schools. The Standard Gas Equipment Corporation, of 18 East 41st St., New York City, has just issued its latest school-equipment bulletin, describing and illustrating its line of gas ranges for schools, homes, and apartments.

The bulletin illustrates two new products—one, an all-hot-top Vulcan two-burner range, and another a six-burner, open-top Vulcan. Both these ranges were designed to meet conditions where a large amount of top cooking is done, but only a moderate amount of oven cooking, and each may be provided with an oven for use in places where roasting and baking is done in another part of the kitchen. The ranges have many improvements, including concealed hinges and springs, and a clean unencumbered top which makes it easier to keep the range in a clean, sanitary condition.

Important new features are the insulated oven for keeping the heat out of the room, and oven-heat control which maintains any oven heat desired, assuring uniform results without watching. The doors are insulated, the flue is concealed, and a mantel back has been added to prevent articles from falling back of the range. Both ranges may be obtained in Monel or Allegheny metal, with nickel or chromium trim.

Complete information and prices may be obtained by any school official upon request.

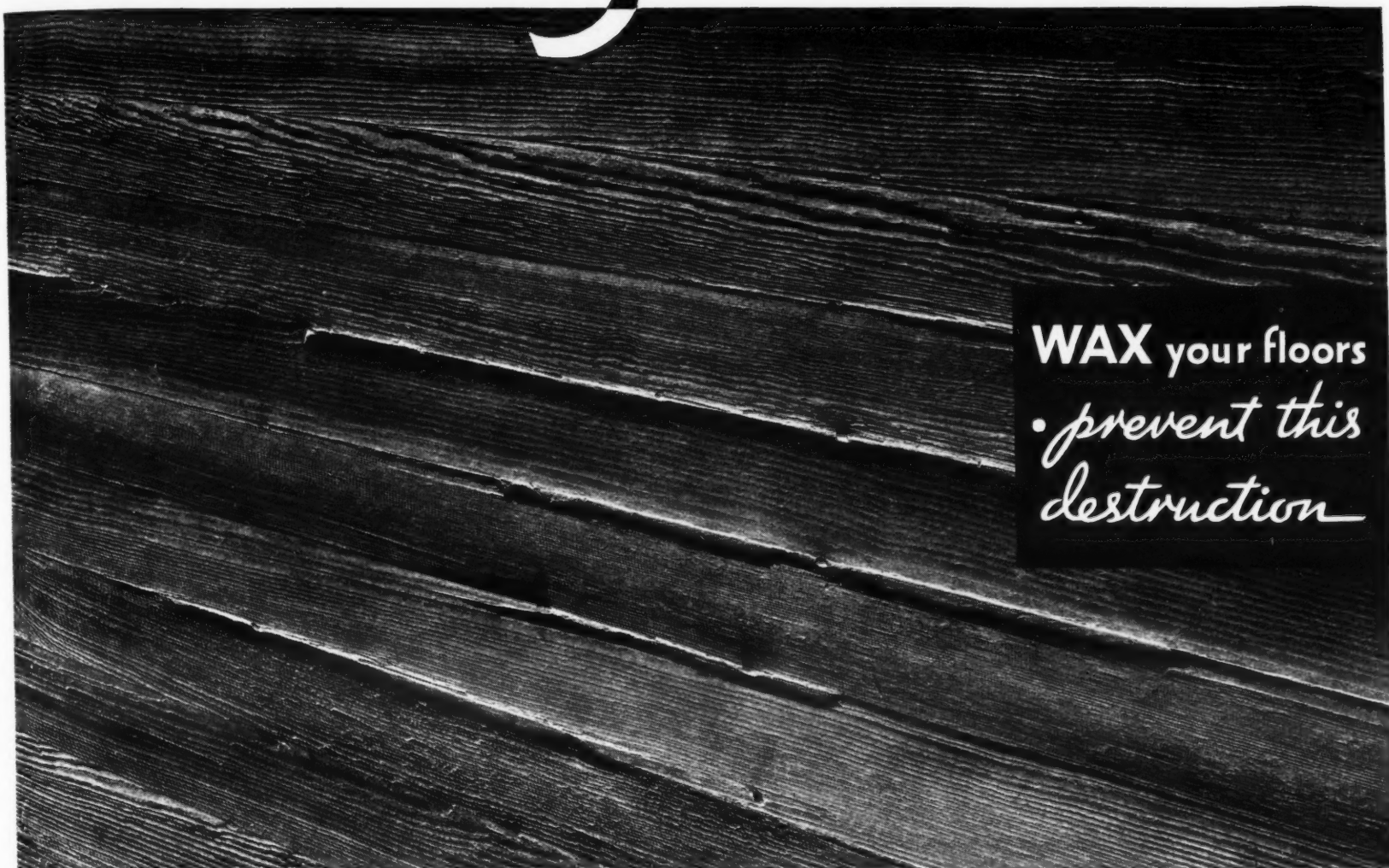
New DeVilbiss Portable Painting Outfit. The DeVilbiss Company, Toledo, Ohio, has recently announced an improved, portable spray-painting outfit, easily carried and operated by one person. The device, which is known as DeVilbiss NC-807, is low in price and especially suitable for touching up work on small painting or refinishing jobs. It is a dependable unit of adaptability and usefulness, is electrically driven, and operates economically on any light socket. The compressor and motor are compactly and securely mounted on a rubber-footed metal base. Complete information and prices may be obtained by any interested school official upon request.

CELEBRATES HUNDREDTH ANNIVERSARY

The American Book Company will be a hundred years old in 1932. Although having a continuous existence of almost one hundred years, the company has had different names. It originated in 1832 as W. B. Smith and Company; later it became the Wilson-Hinkle Company, and thereupon the Van Antwerp-Bragg Company. The name "American Book Company" dates from 1890. Among the famous early books published by the firm are the McGuffey readers and speller, Ray's arithmetic, Harvey's grammar, and Venable's History of the United States.

YOUR *scrubbed* FLOORS MAY LOOK ALL RIGHT TODAY...

but what will they look like
in **5** years



WAX your floors
• *prevent this
destruction*

● Your floors may not look like the one pictured above. In fact, they may be in very excellent condition today. But the problem of floor maintenance, for all kinds of floors, is not so much what they look like today—as what will they look like in 5 years?

• If your floors are preserved and beautified the modern, economical way—with genuine Johnson's Wax—you never need worry about them. They will last indefinitely, safe against destruction. And the cost of maintaining them is little—less than other methods. Think of never having to scrub your floors!

• If, however, you are still using old fashioned methods, such as scrubbing, then we suggest you consider the ultimate cost of replacement.

USE
GENUINE **JOHNSON'S WAX**
FOR 45 YEARS THE STANDARD OF SERVICE

• When you have considered this cost, and the greater beauty waxing affords, you will certainly give instructions to *stop scrubbing* and *begin waxing*.

• At least, you will want this new book which F. N. Vanderwalker has written. It is called "Modern Floor Finishing"—written authoritatively, 90 pages with 30 illustrations—describing revolutionary new methods of floor maintenance. Priced at \$1—will be sent free to anyone concerned with floor maintenance problems. *Use the coupon.*

FREE!



S. C. Johnson & Son, Dept. SJ10, Racine, Wis. • Please send me free a copy of "Modern Floor Finishing."

Name _____

Address _____

City _____

State _____

SEATS THAT *Cannot* *be Destroyed*

NEVER INVITE DESTRUCTION

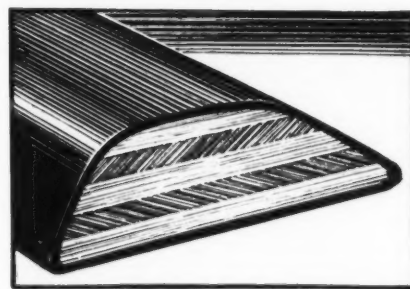
WHEN you are discouraged to see how your best efforts at proper discipline fail to prevent the seemingly systematic abuse and destruction of school toilet seats... remember that equipment that cannot be destroyed never invites wanton destruction.

Have an inspection made. Have every toilet seat in the school looked at by the janitor. Get a report on their condition. Has the finish worn off? Are they cracked or split? Are the hinges corroded? Cracked seats and corroded hinges gather dirt and breed germs. Get rid of old-fashioned, worn-out, unsightly seats and install handsome, new Whale-bone-ite Seats in their place.

Whale-bone-ite always looks new, clean and inviting. It keeps its beautiful appearance forever. Once installed, Whale-bone-ite never has to be replaced. It is guaranteed for the life of the building, ending replacement expense once for all.

*Send Coupon for New Book
"Install Them Once
They Last Forever"*

In order to have proper toilet seats in present buildings or new schools, get the complete story of Whale-bone-ite Seats as told in this new book. No cost or obligation. Send coupon today. Address, The Brunswick-Balke-Collender Co. Dept. BB6, 623-633 So. Wabash Avenue, Chicago, Ill.



WHALE-BONE-ITE CROSS-SECTION

In this cross-section note the cross-grain, laminated construction, exclusive with Brunswick, that gives Whale-bone-ite a super-strength that defies time and abuse. It is the only construction that combines unbreakable strength with necessary lightness and sanitary qualities.

Jet-black, glass-smooth and diamond-hard, Whale-bone-ite beauty never wears off seat or hinge. No exposed hinges to corrode, to collect dirt or need polishing. No cracks to harbor dirt and germs. Easy to keep clean with minimum effort. Non-inflammable. With all these advantages Whale-bone-ite costs no more than the cheapest moulded composition seat made.

Brunswick
LAMINATED
WHALE-BONE-ITE
TOILET SEATS

The Brunswick-Balke-Collender Co.
Dept. BB6, 623-633 So. Wabash Ave., Chicago, Ill.

Gentlemen: Please send me without cost or obligation a copy of your new book that gives the complete story of Whale-bone-ite Seats.

Name

Name of School

Street

City State

IT TAKES A WHALE OF A SEAT TO STAND PUBLIC TOILET ABUSE

Advanced Education requires

Copernicus Junior High School, Hamtramck, Michigan, opened September, 1931—the last word in school construction in a school district noted for its advanced methods.



CLEAN FLOORS

Interior view, showing Finnell equipment in use in one of the corridors. Floors in corridors and cafeteria are terrazzo. There are 45,000 square feet of hard maple floors in the classrooms.



The purpose of education, as developed at Hamtramck, is to train individuals who can live successfully in a democracy. The Copernicus Junior High School embodies many interesting features designed specifically to facilitate instruction to that end. Though just completed, its plan and equipment have brought commendations from the country's educational leaders.

Air in all the rooms is changed periodically, being washed with cold water in the summer time and heated in the winter. The building is equipped with oil burning boilers. It is complete even to such details as furnishing individual showers in the girls' department, and air heating apparatus for drying their hair. The household arts department includes a completely furnished six-room apartment to teach home-making through actual care of a home.

Selection of Finnell equipment to insure floor cleanliness in this building is therefore of more than usual significance. According to Mr. A. C. Lamb, Mechanical Engineer of the Hamtramck Board of Education:

"The Finnell System No. 90 Machine and the No. 16F Polisher with three mop trucks were se-

lected for the Copernicus Junior High School after a thorough test of all available machines. These tests indicated that the Finnell machines were the only ones available that would cover the surfaces required with the labor available. We have attempted to mechanize the work as far as possible throughout the entire building. The Finnell System lends itself to this program better than any of the others tested."

The FINNELL SYSTEM is the pioneer system—the leading system of waxing . . . polishing . . . scrubbing. It is complete . . . there are nine different models . . . one to suit your needs and priced to fit your budget. The size of your building, the floor area and type, the extent to which you wax and scrub . . . all have a bearing on the system you should use. FINNELL is the one system giving you so wide a range.

Investigate Now. A FINNELL representative will be glad to make a survey of your floor maintenance needs and recommend a system economical for you . . . and demonstrate if you wish. Address FINNELL SYSTEM, INC., 810 East Street, Elkhart, Indiana.

This is one of the machines included in the Copernicus Junior High School installation. A terrazzo machine that scrubs and waxes up the water surface. This does not need a rubber floor mat and never gets out of line. Before the job is done, a powerful vacuum draws up the dirt and leaves the floor clean and dry.

FINNELL

Est. 1906

WAX POLISH



*Prominent Schools Equipped with
AUSTRAL WINDOWS and
AUSTRAL WARDROBES.*



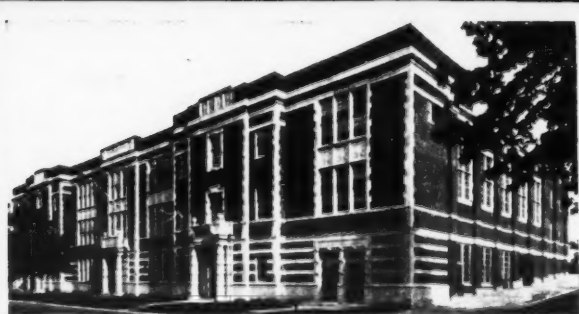
Union Avenue School, Irvington, N. J., Schneider, Kleeman and Werther, Architects.



Hawthorne Public School, Hawthorne, N. J.,
Fanning and Shaw, Architects.



Junior and Grade School, Abington, Pa., Heacock and Hokanson, Architects.



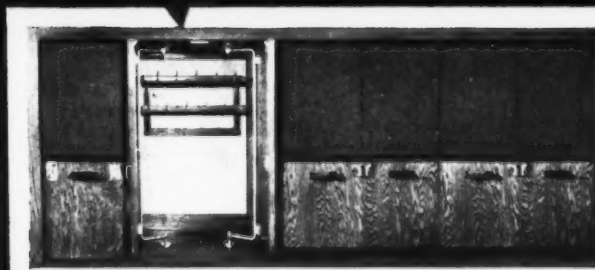
Chatsworth Avenue School, Larchmont, N. Y.;
Knappe and Morris, Architects



Anthony J. Bowen School, Washington, D. C.
A. L. Harris, Architect.



Providence Street Junior High School, Worcester, Mass.; C. Adolph Johnson, Architect.



The judgment of School Specialists favors COMPLETE NATURAL VENTILATION, the latest development for modern schools . . . The fresh air enters through the AUSTRAL Window and is diffused through the classroom, passing under the Wardrobe doors and is vented out through an aperture in the top of the Wardrobe . . . Simplified . . . Economical . . . Efficient.